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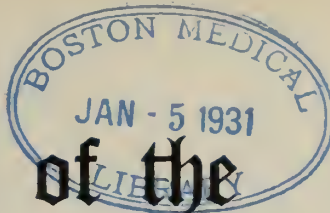
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No. 1

HEALTH REGIME IN OUR PUBLIC SCHOOLS*

EDWARD L. ROHLF, M.D., Waterloo

The health problem of our public schools is of tremendous importance and should command the attention of every physician practicing within the boundary lines of this wonderful state, with its enormous wealth and natural resources.

Fundamentally, preventive medicine is the key-stone of the whole professional program. Every child of school age is entitled to the very best education it is possible for our state to provide. It is obvious that it is impossible when he is handicapped with any defect in whatever form, and when proper prophylactic measures are not instituted against diseases, and many children, through this neglect, miss the beauty of life and become county and state charges through criminality or inability to become self supporting, in place of becoming intelligent useful, energetic citizens, and giving to the world something worth while for their having lived, gaining for themselves the full measure of joy which is theirs as the result of a life well spent. It is appalling to know that statistics show that one out of every five children was absent from school every day during the years 1925 and 1926. Total expenditures for the year \$63,040,980 for instruction, making a loss in the educational program of over \$12,000,000. It is safe to say that 50 per cent of this is preventable if proper health regime were instituted. Add to this loss the interest in buildings and equipment in the state and the proportionate loss to our children, and it is safe to estimate that the state of Iowa loses about \$40,000,000 on its school investment, and this is not all. One-half of the children who enter the first grade in the elementary schools each year, fail to reach the second grade, according to tabulations compiled by the interior department through the bureau of education. Most of these pupils become

so-called "repeaters" by failing to make their grades. The estimate cost per pupil per year is \$72 to \$80 resulting in another enormous waste of expenditure every year. It cost the city of Minneapolis \$545,000 to re-educate 14 per cent of her pupils during 1924 and 1925. The city of Altoona, Pennsylvania, spends \$150,000 yearly to keep her repeaters in school. The state of California spent \$4,000,000 re-educating 60,000 backward pupils, at an average cost of \$66.67 each and allow me to say that California has a mighty fine effective school program the state over as you will find by investigating it from any angle. I wish it were possible at this time to give you facts and figures with regard to this situation, in our own state. I am sure the figures would be surprising to any of us. And all due to neglect of the unfortunate children suffering from physical and mental defects, and inadequate protection of our children of pre-school and school ages by not using the preventive measures at our command and rigid regulations and enforcements of same, during epidemics of communicable diseases and prophylactic measures to obviate epidemics. I said it was appalling. Is it not so? The taxpayers' money is wasted, but this is only of material value, the real loss is to the poor innocent, unfortunate children who miss their opportunity for an education through lack of humanitarian spirit, co-ordination of effort of all agencies working for their welfare, lack of support and interest from many of us to the end that the parents might become interested in this important problem and give the hearty cooperation in order that this great wrong to their loved ones may early be appreciably decreased, and in due course of time reduced to a minimum. Allow me to say at this point that the children of rural districts suffer more than children from any other area, as shown by a canvass of the situation.

In the state of Iowa today we have nine different organizations working toward the goal of a better health education, not only of our children primarily, but secondarily for the parents themselves. In order that this program be effectively

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carried out, it requires the whole hearted co-operation locally of the boards of education, the health departments, county medical and district dental societies, county and city association, and what aid all civic organizations can render. This is no one organization job if we expect to reach the highways and byways everywhere in our state in order that every man, woman and child may get an awakening in the fundamentals of the underlying rules and regulations about diet hygiene—physical and dental examinations, and physical culture, necessary to remain as nearly 100 per cent fit as it is possible for them to be. This would increase their joys, multiply their efficiency, avoid innumerable, untimely deaths and be of vast economic value to themselves, as well as the community in which they live and the state in general for "Health is Wealth" and permit me to state, that in communities where effect programs have been carried out, it has been conclusively shown that the medical profession in these communities had a marked increase in their exchequer, which is contrary to argument advanced by some physicians that such programs would cause an economic loss to our profession. It appeals to me that physicians everywhere should be leaders in any health movement and not trailers or obstructionists. Their education and training make them natural leaders and obviously the best men in any community to have charge of the plans, organization of forces to be used, and the fulfillment of such plans to the end that the very best result may be obtained, and prevent some untrained person imbued with more enthusiasm than sense from gaining control of the proposition, thereby causing a miscarriage or abortion of the effectiveness of the whole movement. We as medical men from a humanitarian standpoint alone owe it to the community in which we live, in return for the services rendered for hire, through the confidence in our ability to return value received from our storehouse of medical knowledge and surgical skill by those who employ us, and to the state because it assumes a great responsibility when it grants us a certificate to practice, and thereby guarantees us as it were, to the people of the community in which we locate. It should be our ambition and aim to make our community the most healthy possible at all times. For this service leadership is essential. Proper economic consideration should follow and I feel a grateful people would be willing to do this, though the remuneration may not be according to any schedule, if one is in operation.

The following report is submitted to give you an idea of conditions found in Waterloo schools (West).

Kindergarden to eighth grade. Beginning of school year 1925 to May 1, 1928.

Number children examined.....	5411	
	Cases Found	Cases Treated
No. of children with defects	2485	Nearly 46%
No. of defects corrected.....	976	39%
Eye complications	94	42
Vision defects	586	151
Ear Complications	191	101
Hearing defects	166	38
Nose defects	826	296
Throat	1941	337
Glands	608	109
Orthopedic	13	2
Systemic	64	40
	4489	1116

This is exclusive of acute contagious diseases and teeth.

House calls by the nurse—688 in the interest of defective children.

One year we had a school physician to whom cases were referred for diagnosis when no family physician could be discovered—he also held a one hour clinic at the school once a week. The last two years a nurse worked alone. While this report is but a meager outline of the state as a whole, yet I venture to say that it gives a fairly average conception of the state of health of the children of our state, and challenges us to more active interest and effort in their behalf. It has emphatically been proven by neglect of correcting curative and remedial defects in our children in the past, that the handicap follows them even unto the grave. In the army draft of 1917, 33 per cent of those between the ages of twenty-one and thirty-one years were rejected as unfit for military service and perhaps many who were accepted should have been rejected. In the second draft, 30 per cent were rejected. A study of the defects found, showed 60 per cent to be preventable or remedial. Of all men examined between the ages of eighteen and forty-five, over 50 per cent were found who needed remedial care, some of these were accepted later. This situation should never occur again. Measures should be adopted to obviate its possibility. Some states, including our own, have been very active in certain areas but it should become more universal. Under the old regime, by the time our children have finished high school 88 per cent will have had measles, 78 per cent whooping cough, 75 per cent mumps, 52 per cent chickenpox, 12 per cent scarlet fever and 9 per cent diphtheria. Examination of large numbers of school children has shown that children with defects have about 22,

per cent higher rate of absences than those without defects. Diseased tonsils and adenoids increase the rate 12 per cent, diseased tonsils and adenoids with other defects, about 30 per cent. On examination of about 240,000 children shows 75 per cent have correctable defects. Nearly 50 per cent of these defects were attributed to the teeth.

I now wish to give you briefly the dental hygienist report for the four years she has been employed in Waterloo schools (West) kindergarten to the eighth grades inclusive.

1. 1924-25—Examination of 2,426 children for dental defects during September and October showed 32 per cent had teeth in O.K. condition. The final recheck in June revealed that 5 per cent had teeth in O.K. condition. (Hygienist worked part time.)

2. 1925-26—Examination of 2,555 children in September and October for dental defects showed that 51 per cent had O.K. teeth. The final recheck of 2,589 children in June revealed that 81 per cent had teeth O.K. (Hygienist worked full time.)

3. 1926-1927—Examination of 2,604 children for dental defects in October and September showed that 48 per cent had O.K. teeth. In June the final recheck showed that out of 2,809 children 80 per cent had O.K. teeth.

4. 1927-28—Examination of 2,771 children for dental defects during September and October showed 47 per cent teeth found O.K. A recheck showed that out of 2,736 children 78 per cent had O.K. teeth May 1, 1928.

You will notice here the wide variance in number of O.K. teeth found by the checking at the opening and closing of each term with creditable improvement and every teacher enthusiastic about the noted improvement in the children in behavior, interest in school work, and ability to accomplish their work with much better grades. You will also note the wide difference in percentage of O.K. teeth at the opening of the school year and the closing of the preceding year, which is partially accounted for by the moving out of clean mouth children and the moving in of children with very bad teeth conditions and somewhat by neglect of many children during vacation when not under supervision. It would stimulate your interest to just come in contact with some of these tots, while they are trying to get on the O.K. teeth honor roll. The hardships and pain they will endure; the keen interest in the instructions given by the hygienist. For they realize it means good health, and a better education with better grades and promotion. Dr. Charles Mayo made this statement, "80 per cent of the diseases affecting children attack their bodies through the

mouth, nose and throat and 90 per cent of all deaths are due to diseased systemic conditions which had their origin in the oral cavity". It is evident from this statement that it is important to establish and maintain clean, healthy, sanitary, germ-resisting conditions of the mouths of our children to reduce the percentage of failures and produce a more happy, bright and contented condition in our future generation of children. It is at this period in life when impressions are easiest to make and more lasting for the future. Thus the fruits of our labor will continue to live during adult life.

You are all familiar with the program which the State Department of Health has been trying to put over effectively in our state. I am referring to immunizing with toxin-antitoxin against diphtheria. You no doubt are all informed about the results obtained which are very gratifying in some cities and counties of our state. Fear of sensitization is one of the stumbling blocks, and lack of cooperation of physicians in working out the program, and assist in educating the parents to bring about their cooperation and willingness to have their children submitted to the treatment. I was interested in a case where toxin-antitoxin had been administered about two months previously when the child became ill with anterior poliomyelitis, and due to anaphylaxis most profound was unable to take Rosenau's serum even though small doses were first injected at intervals. The parent is now convinced that he would never subject his children to serum treatment except as a curative measure for disease. Are we justified in rejecting the whole because of a few reactors when its use as an immunizing agent may prevent death in thousands of other children during a decade? The same might be said about other immunizing serums, namely, smallpox, scarlet fever and whooping cough. It is true that great care should be exercised in some cases, especially asthmatics, hayfever cases and children having food idiosyncrasies, as these are the most likely to react unfavorably and should be tested by the intra-cutaneous methods. This is also true in all cases where an intravenous injection is being contemplated. It is unnecessary for me to further expand on what the State Department of Health is doing as any one interested can get all the data through our efficient secretary by the asking. I am sure you will find it interesting and convincing as to where our duty lies. After setting forth the necessity of a more effective health regime in facts and figures just given you I now wish to present what I feel are essentials for a proper health regime in our public schools.

1. The employment of a properly prepared health officer in every community who should be a medical man to organize the work and oversee the workers and to whom the workers in the field could go with their problem for intelligent direction and advice and make physical examinations of all children.

2. A city and county health nurse in well populated areas, county nurse only in less densely populated areas who should inspect all school children for defects and refer them to the family physician through the parents. Keeping records of all work and make annual reports.

3. A dental hygienist in city and county or county alone as set forth for the health nurse who shall have charge of all teeth conditions of the school children and refer all cases for correction through the parents to the family dentist.

4. See that a sane program for physical training and athletics is carried out in our public schools. Have a constructive training for physical defects of the many who may be benefited and use their training in sports for years to come in place of capitalizing the athletic programs to the extent that thousands of dollars the state over are being earned for our schools through the strenuous performance of athletes who must be practically physically perfect before they are accepted and many times burned up, so to speak, when they leave high school, from the effects of which they may never recover. Thus the capitalized athletics not on a sane basis is destructive to the youth engaged and overshadows and relegates to the rear the real object for which physical training and athletics is made a part of our school program.

5. Early detection of cases of communicable diseases and their exclusion from school with rigid enforcement of quarantine regulations. Add to this immunization of all children even in the preschool ages (for they are our greatest menace) against all diseases for which known methods for immunizations have been definitely established.

6. Have a definite health educational program in every school in the state thereby providing opportunity to instill in our children a knowledge of an interest in the essentials of healthy living. Make them enthusiastic believers in the thought that good health is at a premium and much to be coveted. Thus it is possible to reach the present and here too an effective program should be instituted by way of health talks with or without lantern slides for object lessons by scientific men and women of their own community whenever possible. Correlated with outside talent when deemed necessary and is always avail-

able through the state health department and other state agencies at our command at a nominal expense. I cannot emphasize too much the necessity of a health educational program in every community and we physicians should be leaders in the work. Our reward will be more and better physical examinations sought by parents for their children and themselves as well, as the light of health education awakens a new interest in self-preservation and a stronger hope for longevity.

There are other thoughts which might be added to make a perfect health regime in our public schools but sufficient to say that with a whole-hearted interest and support to which must be added personal work of the medical profession as a whole of the program outlined I am sure that it will save our state vast sums of wasted funds, it will add to the joys of our children, it will multiply the efficiency of our future citizenship, it will lessen criminality, and reduce the number of dependents now living on the earnings of others, it will broaden the lives of practically every citizen in our state, and lastly, for the sacrifice we have to make and the service we have to render will be well repaid by the satisfaction we can feel in a duty well performed, and the joy and comfort we have created, for after all "He profits most who serves best".

Discussion

Dr. Fred Moore, Des Moines—Health instruction of school children is a valuable procedure which should be developed under the direction of educational boards. When it is conducted by other organizations—such as city health departments as is practiced in some localities—it is likely to possess less of educational value. It is essential that the whole procedure should be educational. It should give to children definite and positive knowledge of permanent value. It should educate parents in the direction of independence rather than dependence. In developing or directing such a program one must come back again and again and ask regarding every activity—Is this of educational value? Whom does it teach—the child, the parent, or the neighbors who en masse constitute the public? Does it afford the child knowledge which is valuable from the standpoint of personal or community health, hygiene, and sanitation? Does it present to him and his parents the wisdom of initiative and responsibility in caring for themselves? Does it insidiously create for them the belief that the community will take care of their personal health needs? The guiding forces of a program should remember constantly that the activities of the school should be educational rather than remedial and those pertaining to relief. Medical inspection should be in reality but one phase of a comprehensive health program, which is commonly referred to as health education. This should comprise all activi-

ties in the school which pertain to health. In a large measure it is possible to consolidate them all, including didactic courses in hygiene and physiology, into a health department. Such organization coordinates the activities and the teaching of the several groups engaged in health work—the school physicians, nurses, teachers of physical education, dentists and dental hygienists. In this manner such activities may be harmonized and the educational objectives approached with greater certainty. Medical inspection then serves a fourfold purpose: First, specific teaching of the child; second, accurate basis for the nurses' work in promoting correction of defects; third, accurate basis for the teacher of physical education; fourth, prevention of contagion. The advantages and importance of periodic physical examinations cannot be better established than by this educational process through the period of school life.

Dr. Rohlf (closing)—I want to thank Dr. Moore for the position he takes, because I believe that fundamentally the educational program is the whole program. Just to illustrate what it means to educate these children I will cite the case of a little boy—poor, poverty-stricken—who worked around here and there and saved penny by penny until he had one hundred cents. He had some teeth that were preventing him from getting into the honor roll of a perfect mouth. He also had been a very obstreperous child in school, it was difficult for him to make his grade, and altogether he had had a hard time and so had the teacher. But he had become so impressed by the educational process that had been instituted in his room that when he had saved one dollar he went to six or seven dentists before he found one who would take care of that little kid for the one dollar. The boy went through all kinds of pain and torture, but he had his teeth fixed and he was full of anticipation and enthusiasm in looking forward to the time when he would receive the ticket entitling him to be placed on the honor roll because of the condition of his mouth. This incident serves to illustrate that if you can get the right spirit going in the school there will be no trouble in reaching the child, and he is not going to forget it, he will keep it up. And you will also reach the parents until they, too, will seek relief, so by means of this educational program you are killing two birds with one stone.

AMERICAN ASSOCIATION FOR STUDY OF GOITER MEETS IN MARCH

The American Association for the study of goiter is to meet at the Miami Hotel in Dayton, Ohio, March 25, 26, and 27, 1928. The morning of the first day is to be devoted to "dry clinics". The afternoon to scientific papers. The morning of the second day will be given over to "operative clinics". That afternoon and the third day will be devoted to scientific papers. F. B. Dorsey, Jr., M.D., Keokuk, Iowa, is recording secretary of the association.

FUNDAMENTAL POINTS IN THE X-RAY DIAGNOSIS OF BONE TUMORS*

ROY F. BELLAIRE, M.D., Sioux City

A brief review of normal bone structure will first be considered in order that this discussion on bone tumors will be established on a clarified basis.

Quoting Baetjer: "The periosteal sheath, made up of fibrous tissue, envelops all long bones. Beneath the periosteum lies the cortex, dense and compact, which histologically is made up of bone cells, masses of inorganic salts and the Haversian canals. Within we find the medullary canal containing bone marrow, fat, nerves, blood and lymph channels. At the ends of the bones the cortex and medullary canal merge into a finely reticulated bone forming the cancellous ends which in turn are covered with cartilage lining the joint." The cortex and medullary canal are visualized on the x-ray film while the periosteum cannot, under normal conditions, be seen.

The bone is pierced in its mid-portion by a small canal for the entrance of nerves, lymph and blood-vessels. This canal, by virtue of these vessels, plays an important role in metastatic implantations.

Keeping these facts in mind, any variation from the normal can be observed. Deviations always are either bone destruction or bone production or a combination of both. The roentgenologist in making a diagnosis must correlate his observations with the history, clinical course of the disease, age, sex, bone involved and biopsy findings if any are available.

The x-ray examination of a bone tumor will be simplified if we pursue an analytical plan in arriving at a probable diagnosis. That recommended by Baetjer appeals to the writer as being exceedingly practical and helpful especially to one not experienced in bone tumor diagnosis. He mentions four points which are followed as "methods of approach" when a bone tumor is being studied. They are:

1. Origin of the tumor.
2. Presence or absence of bone production.
3. The condition of the cortex.
4. Invasion.

It might be possible to establish only one or all four of these cardinal points; the establishment of one or two will exclude immediately many tumors. Again it is possible from one or two changes to arrive at a definite conclusion as to

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the benignancy or malignancy of a tumor in the vast majority of instances, provided there has been no surgical or radiotherapeutic interference. Cases might arise wherein it is difficult to establish a diagnosis from a microscopical study of a section. Kolodney warns against cock-sure diagnosis of certain benign tumors which previously have been operated. In doubtful cases therefore we must be guided with caution lest, on our word to the surgeon, he might innocently sacrifice a limb or issue a fatal prognosis in a benign case. This catastrophe happens most often in a giant cell tumor with the inexperienced. For best results we must systematize our analyses and not make a diagnosis because a certain x-ray picture reminds us of a similar radiogram seen elsewhere to which a diagnosis had been attached.

Origin—In order to determine the specific location in the bone from which a tumor arises, it would be necessary to examine microscopically the cells long before the first signs of disease manifest themselves. This determination therefore is clinically impractical and radiologically impossible, particularly in malignant tumors.

In osteogenic sarcoma the development is contingent upon the kinetic energy of the tumor cells and upon the degree of resistance in the tissues immediately surrounding the nest cells, be they medullary, cortical or periosteal. Naturally tumor cells would exhibit most rapid growth in the medulla, less periosteally and least in the cortex.

Occasionally we find bone tumors, especially of the Ewing type, in which the entire medullary canal is involved without gross visible changes in the cortex, but with slight periosteal proliferation present and this laid down horizontally with the long axis of the shaft. How then can we designate the origin of bone tumors? We cannot except in benign cases. It is true that metastatic cells are deposited by the nutrient artery directly into the medullary canal where they must have their developmental birth, but neither the clinician nor the patient can sense these changes; equally fruitless would be a skiagram. It is only later when progress has become evident that we first see the patient, when the point of origin has been obscured or destroyed. It can readily be inferred that the point of origin is not of indispensable value in the analysis of malignant tumors.

Benign bone tumors have definite sites of origin. Arising in the medulla we find simple bone cysts, giant cell tumors, enchondroma (also cortex) fibroma which from the standpoint of x-ray diagnosis cannot be distinguished from simple bone cysts or enchondroma.

Benign tumors arising in the cortex are: Osteoma, including all types of exostoses, osteochondroma, enchondroma, rarely bone cysts, fibromyxoma.

While the cartilaginous bone ends are exceedingly susceptible to pyogenic infections, they are stubbornly resistant to the invasion of cancer cells. It is only very late in the disease that we sometimes find the cartilage transgressed in undisturbed malignant bone tumors. After surgical interference and following pathological fractures through the tumor area, this cartilaginous barrier is broken down. A malignant tumor by following along tendinous attachments can circumvent the cartilage and invade the proximal joint. Once the cancer cells invade the joint the contiguous bones will likely become involved. From these facts we can conclude that cartilage never is the origin of bone tumors, yet it might under the above circumstances be involved or bridged across.

Osteosarcoma being of connective tissue origin either is primary or metastatic in the bone. Carcinoma being of epithelial origin cannot arise in bone but must be carried into the medulla by the vessels via the nutrient canal.

Presence or Absence of Bone Production—In bone pathology the changes obviously are bone destruction, bone production or a combination of both. The presence of one or the other alone is no indication that the tumor is either benign or malignant. However, with two exceptions, tumors possessing both changes are all malignant, the first exception being repair following a pathological fracture through a bone cyst and the second in cases following surgical intervention. We may find destruction resulting from the operation and production from later repair.

Benign Tumors Showing Bone Destruction—Simple cysts and enchondromata. The cortex in these tumors is absorbed concentrically from pressure within the medulla; the expansion of the bone being a concomitant change in its adjustment to the pressure from within.

Benign Tumors Showing Bone Production—Osteomata of the various types including osteochondromata, giant cell tumors and ossifying hematomata.

Malignant Tumors Showing Bone Destruction—Metastatic carcinomata, round cell sarcomata, osteosarcomata of the osteolytic type, hypernephromata, myeloma.

Malignant Tumors Showing Bone Production—Osteosarcomata particularly the sclerosing type, early periosteal sarcomata.

Benign Tumors Showing Both Bone Destruction and Bone Production—Simple bone cysts following pathological fracture with repair.

Malignant Tumors Showing Both Bone Destruction and Bone Production—Osteogenic sarcomata, Ewing's tumors, periosteal sarcomata after moderate advancement. It is true we can visualize radiographically only bone production when we see an exceedingly early case of periosteal sarcoma, although microscopically bone destruction undoubtedly does exist. At a later period both processes are readily perceived.

Bone is destroyed by the eroding action of neoplastic cells, from pressure of the foreign growth on the surrounding bone, certain inflammatory conditions and the corrosive action of certain tumor cells without the presence of osteoclasts.

Bone production in a tumor does not occur in very rapidly growing types in the zone immediately surrounding the original nest cells, for the reason that nature lacks the time element necessary to build up a barrier of bone at the growing periphery of the tumor. The converse of this phenomenon is found in metastatic carcinoma of the prostate which has metastasized to the spine and pelvic bones. In this instance the deposits take on extremely slow growth and we find on the x-ray film marked bone proliferation in these areas because the normal contact cells have had ample time to resist the invasion.

When considering osteogenic sarcoma we should not assume that bone elements always are a part of the tumor. It is possible for the cells to remain in the undifferentiated state and cause a rapid melting away of the surrounding bone. (Kolodney). "At a later stage differentiation leads to bone production in certain areas of the tumor and continues to destroy in others. Again cells might be highly differentiated and evolve through the various stages of myxomatous, cartilaginous and up to osseous tissue; or the differentiation might stop at any of the above transitional stages mentioned and assume their individual characteristics without ever reaching the osseous stage."

Bone production offers an interesting chapter in tumor pathology. The reaction to neoplastic growths is controlled to a large degree by what Kolodney aptly terms "growth restraint". Quoting from his meritorious text: "Bone Sarcoma"—"Cases of osteogenic sarcoma may be identified when the bone absorption, new bone formation and the vascularity can hardly be told from callus in various stages of bone repair. This observation leads one to believe that the development of osteogenic sarcoma is guided by the same principal

laws of growth that usually are observed in the animal organism when in the stage of natural growth or when repair and regeneration are on hand. The main and important specific condition required for the development of an osteosarcoma is the stimulus to growth." He continues, "That the growth capacity is transferred from the fertilized ovum to the animal tissue cells. Up to the adult life the cells are in a state of physiological development and require no growth stimulus. However, when this stage of life is attained all growth tendencies in cells are checked, thus preventing an over-growth or perpetual growth". This autonomic inhibitory force Kolodney terms, "growth restraint". This so-called kinetic power for physiological purposes ceases at adult life. Otherwise the cells would continue to grow indefinitely. The kinetic power at this age is supplanted by potential energy in order to carry on the natural physiological reparative processes. Aside from the loss of growth restraint, trauma likewise will break down the natural resistance and revert the cells to the kinetic cycle, causing thereby unrestrained growth in the traumatized area. Thus in malignant tumors all growth restraint is absent. In other words, the early cells of a tumor are a reversion to the pre-adult stage where natural growth of the cells is unconfined.

The Condition of the Cortex—There are many points to be observed under this heading in the examination of a skiagram for diagnosis. Baetjer instructs us to observe if the cortex is present or absent; likewise to note if it is or is not expanded and if so, is the expansion spherical, fusiform or longitudinal.

All benign tumors arising in the medulla or cortex produce an expansion without attending periosteal changes. In this respect the behavior of Ewing's tumor is interesting in that a part of the entire shaft of the bone might be expanded but the periosteal changes with the expansion removes it from the benign class.

Simple bone cysts are spherical, fusiform or longitudinal. Giant cell tumors, simple cysts and enchondromata can cause extreme expansion and absorption of the cortex to the point where practically no cortex remains.

In metastatic carcinoma, round cell sarcoma and osteolytic osteogenic sarcoma the cortex virtually melts away, while in the osteoblastic type of osteogenic sarcoma, especially the sclerosing variety, we find grossly increased bone production in which, however, are present microscopic areas of bone destruction.

In the periosteal form of osteogenic sarcoma the outer or sub-periosteal layers are eroded early because the tumor arises in the cortex and the characteristic vertical bony striations are merely osteogenic cells deposited along the capillaries growing out from the cortex.

Invasion—By "invasion" is meant the infiltration of a tumor into bone or soft tissues. While the process is, in the majority of instances, not difficult to observe, yet at times it is perceived with difficulty. However, when the evidence is unmistakable, we can, on this finding alone, make a diagnosis of malignancy because invasion means malignancy.

An extension of a bone tumor such as osteochondroma or advanced types of giant cell tumor cannot be viewed as invasion because these growths are encapsulated and are composed of bone or cartilage, while the embodying cells are more or less restrained, their peripheries are demarcated and they do not metastasize in their undisturbed states. Once a bone tumor invades the soft tissues its growth is rapid. A clinical fact to be kept in mind is that frequently at this very time in which the growth has perforated the bone, the pain, heretofore intense, will be ameliorated and a feeling of false security might be established in the minds of the attending physician and in the patient. This is due to the relief of periosteal tension to which Kolodney attributes much of the pain in bone tumors.

Baetjer stresses the age period as an aid in diagnosing bone tumors. He divides the life span into three age periods:

First age period—Birth to twenty years of age.

Second age period—From twenty to forty years.

Third age period—From forty upward.

On this basis we can often assume that a malignant bone tumor during the first age period is most likely to be a sarcoma as this type is most frequently found in youth, although sarcoma can occur at any age. Again, if we have a man in the third age period, particularly over fifty, complaining of severe pelvic or lumbar pains and in whom bone changes are found in these areas, we are fairly certain, according to this law of probabilities, to be dealing with metastatic carcinoma of the prostate. These same pains in a woman past forty, especially in whom there has been a history of carcinoma, probably would indicate carcinomatous metastases in the spine or pelvis. The writer on two occasions recently discovered such conditions in the pelvis of women before the attending physicians were aware of any breast lesions. Hence, if we keep in mind that sarcoma

is prone to occur in the first and carcinoma in the third age periods, we shall have a valuable accessory aid in arriving at a diagnosis in these bone tumors.

A most valuable recent contribution to the literature on bone tumors is a book written by Dr. Anatole Kolodney entitled "Bone Sarcoma". The author incorporates in this work his collective studies gained from the Registry of Bone Sarcoma of the American College of Surgeons. In many respects his observations are revolutionary, but are based on sound reasoning due to his tireless investigations. It is urged that all physicians and surgeons report their cases of bone tumors, and particularly bone sarcoma, to the Registry as an aid in the further elucidation of this partially explored field.

Discussion

Dr. Arthur W. Erskine, Cedar Rapids—I can add nothing to Dr. Bellaire's presentation except to emphasize, as he did, that if the roentgenologist's opinion is to be worth anything it must be based on all the clinical evidence. It is true that roentgenologists do sometimes attempt to make a diagnosis from x-ray signs alone, but, as stated, in this particular field which is especially intricate the decision whether a tumor is benign or malignant, whether amputation should or should not be done, whether a hopeless prognosis should be given or not, often depends on a very small thing. For the patient's sake every bit of evidence should be correlated either by consultation or by furnishing the roentgenologist with the complete history and physical findings of the patient; the age, the length of time the disease has existed, the sex (often in hospitals roentgenologists do not even see the patient), whether there is pain or not, whether fever or not. The importance of all this can hardly be overemphasized.

Question—I would ask the essayist if he will enlarge a little more on the point Dr. Erskine spoke of as to the differential diagnosis between giant-celled tumor and giant-celled sarcoma, and how the average surgeon is going to know one or the other and what he will do about it or whether he shall x-ray the patient or not.

Dr. D. N. Loose, Maquoketa—I have recently had metastasis of a uterine carcinoma into the femur, and I would like to ask how frequently such metastasis occurs.

Dr. B. V. Brokaw, field representative, American Society for the Control of Cancer, New York City—I am very sorry that because the train was late I did not arrive in time to hear the presentation of the paper or very much of the discussion. However, with your permission I will take just a moment to say a word about the whole question of cancer briefly, the relation of the medical profession to it, and some of the problems involved. I do not wish to divert your attention from the subject matter of

the paper, as this would be a discourtesy to the speaker, but bone tumors do play an important part in cancer in general. Although you see on the cards in hospitals that the greater number of cases are skin cancer and those of the breast and uterus, there are a certain number of bone cases there and they add to the death rate. The American Society for the Control of Cancer is interested in the education of the laity in the detection of early symptoms of cancer, and it is also working conjointly with the profession in accumulating a greater mass of knowledge on the subject. What we want is more accurate diagnosis, and prompter action on the diagnosis after it is made. Those are two important points I desire to take time to discuss, and it would be discourteous on my part to discuss any differential points on the diagnosis including x-ray. Recently a radiologist in a large mid-western city said to me: "The thing that impresses me is that we do not take enough pictures of our patients. In two cases I was not only at fault, but one of our surgeons was at fault. Of these two cases the first one was embarrassing, but the second more so. They both came in with symptoms of brain tumor. We took a picture and made diagnosis of brain tumor, operation was advised and done, and then we took another picture and found the primary tumor elsewhere. If we had known that early enough they would not have operated and added to their cases these deaths due to surgery." So, out of his own experience, he wanted to impress that point upon me, and I think this is true all along the line not only in bone tumors, but concerning other questions as well. The American Society for the Control of Cancer was born in the medical profession, and as its offspring we are trying to follow the precepts of our parent, and any work we do is done conjointly and in direct contact with, and receives the heartiest approval and support of, the medical profession. Dr. William Jepson, Sioux City, is state chairman for Iowa and has done good work. All over the United States there is a great increase in the degree of interest manifested in the subject of cancer. We believe that if an early diagnosis is made we can prolong the lives of many individuals and hold them for several years, and also palliate some cases that cannot be cured. I certainly appreciate the courtesy extended to me this morning. I hope to be here today and perhaps tomorrow, and if the American Society can be of service to you in any way we shall be glad to have you call upon us.

Dr. Bellaire (closing)—In response to question in regard to the differential diagnosis between giant-cell tumor and giant-cell sarcoma, there is no difference. According to the latest nomenclature of the Sarcoma Registry of the College of Surgeons the term giant-cell sarcoma is obsolete. It is a misnomer because it is not a bone sarcoma, therefore instead of calling it giant-cell sarcoma we should in future call it giant-cell tumor. As to treatment, I saw in the Sarcoma Registry book the report of a case treated by x-ray which brought about a condition of sclerosis even though the bone tumor was of

the giant-cell type. While I do a great deal of treatment with x-rays, I believe giant-cell tumors are surgical and should not be treated with x-rays, but in operating benign tumors we should be surgically careful to remove every vestige of the disease because malignancy has often developed as the result of incomplete surgery. In regard to sarcoma of metastasis from the uterus to the femur, I have never seen a case, in fact I have never seen a case of metastasis from the uterus to the extremities. This does not mean that it does not occur, but such a case has never come under my personal observation.

PROFESSIONAL COOPERATION*

T. G. FULTZ, Veterinarian, Pella

The medical profession has its problems dealing with human ills, and the veterinarian has his problems in dealing with animals ills, and in recent years we have discovered that both professions have a great deal in common.

We know that an increase in population predisposes to human diseases; likewise the same holds true in the animal world. Due to this increase the problems of both professions have increased in the same ratio.

We have come to realize that a great number of our present diseases met with in the human family originate in the dumb animals. These diseases, some of which are not injurious to the animals, become pathogenic to the human family.

We are all acquainted with that age old slogan of clean up and keep clean. No one can question the results obtained where this slogan is practiced, and we have watched the progress that has been made against diseases that at times looked as if they would never be conquered or a nation bankrupted in its efforts to combat a disease.

These diseases took a toll of human lives which no money could ever replace and which struck terror to the hearts of those who lived in the territories affected. Being somewhat better acquainted in my own line of work I can cite the outbreaks of foot and mouth disease that we have had in our own country, hog cholera, and anthrax, and among the diseases that we have locally are such as black leg of cattle, hemorrhagic septicemia, equine distemper, glanders and many others. The first move in the program of the eradication of any or all of these diseases is clean up and keep clean.

The enormous amount of money that it has cost to eradicate foot and mouth disease has caused numerous articles to be written in agri-

*Presented before the Marion County Medical Society, June 29, 1928.

cultural journals criticizing the spending of money for the eradication of this dreaded disease.

If the eradication measures had not been adopted and enforced and the laws upheld, what would have been the condition of part of our source of food supply in the U. S. A. today? Rigid inspection, enforced quarantine, destruction of affected animals, and cleaning up and keeping clean has accomplished the eradication of the disease and what were at one time highly infected farms are now clean and are or can be restocked with absolute safety. Showing again that with the proper cooperation of all parties interested, and strict adherence to all eradication measures, this disease has been wiped out.

We are all more or less concerned in the supply of food stuffs to the communities in which we live, and as milk is so generally used it necessarily should be our first consideration.

The veterinarian in his capacity has the opportunity to observe conditions around the dairy farm that the average person does not have the occasion to visit, and no doubt would not be qualified to pass on the sanitary conditions as one who understands such matters.

A manual examination of all dairy animals should be made by the inspector covering the entire animal. A check should be made on the ventilation of the barn and milk house; feed should be inspected, as well as the milking utensils; tuberculin test applied at regular intervals, and all new animals introduced in the herd should be tested before introduction or held in quarantine until they could be tested.

The local physician should report all diseases to the health officer, and the veterinarian should do the same with animal diseases, especially those affecting herds that are supplying human food.

Many of our cities have passed so-called milk ordinances, and they are doing some good in the communities in which they are being enforced. But the real reason why we have not accomplished more is the lack of enforcement of these ordinances and laws. The laxity is due entirely to the fact that those who are in position to enforce the laws are not acquainted with the situation, and are skeptical as to the results obtained from such enforcement. They would rather haggle over the fat content of milk offered for sale, and debate that section of the law and by so doing lose sight of the most important part of the law.

Just remember how long it took in our own state to get laws passed that had teeth enough in them to be effective when once applied. You are all familiar with the circumstances that brought

about the action of our lethargic legislature. Sorry indeed it was that it necessitated the sacrifice of a human life to bring that body to its senses and enact laws to safeguard the general public.

The program that fronts us is one of education and if it is properly applied by the members of both professions in the communities in which they reside, this menace can and will be eradicated. This system of education need not be drastic nor antagonistic to the beliefs of those who are less informed, for we have at our disposal data of concrete evidence that no one can dispute.

You of the medical profession can do a great deal in this educational program, as the family physician holds the driving hand in the community he serves, and any suggestion or facts that he may pass along to his clients are usually fruitful in the finish.

The veterinarian is somewhat handicapped in his program in that the live stock owner's first consideration in such a program is the valuation or financial side to him. If a member of his family dies from the effects of some disease contracted from animals, he will not hesitate to destroy all the animals on his farm if it will safeguard the family. But one reactor cow in his herd which will spread the disease to the rest of his herd and other animals as well, in most cases will not be sacrificed to safeguard not only his immediate family but the public health in general.

This program is an expensive one from a financial viewpoint, as under our present system owners are reimbursed for their losses, and besides that it has taken considerable money to fight the action of those radicals who are always and continually blocking the progress of the right. But by cooperation of both professions, we can strike home for the cause and a great deal more can be accomplished than if we work alone. Let every health officer and veterinarian work together and let us make a good showing on the program of eradication of tuberculosis, as it is up to both professions to carry on this work to the end, and be effective.

The prevalence of rabies in this section of the state warrants our consideration, and any action that local boards of health may take on the matter needs our undivided support and encouragement. What does a bunch of dogs mean to the protection of the lives of human beings? At present there are about 99.99 per cent too many dogs in the state and the other one hundredth of one per cent would not be missed if they were gone. It is the duty of every veterinarian to observe the dog population in his community, and

the destruction of any suspected cases of rabies should be practiced without delay. During my two years of service as mayor of this city we averaged about fifty dogs a year that were destroyed in a humane way. The large number of tramp dogs that we have today is predisposing an outbreak of rabies, which may be more serious than it appears at present. Our cooperation is needed in advising dog owners of this danger, and the early vaccination of all dogs, and to give county, state and city authorities our support in the destruction of the surplus of dogs and those not protected.

It is the veterinarian's duty also to inform livestock owners of the prevalence of tetanus, as we have several farms in this locality where the disease is very prevalent, and the owner knowing this will take the necessary precautions in all cases where there is in the least a chance for infection. Each owner has also been advised that the disease can be contracted by himself or his family and in all cases to practice the necessary prophylaxis.

I am not able to say if this has caused any increase in the amount of antitetanic serum used, but I notice we have had no cases of tetanus in this vicinity for several years.

There is also present in practically all parts of the state and in fact every dairy state, a disease that is exacting a great toll and financial loss from the dairy industry. I refer to contagious abortion affecting cattle. During these years of depression the dairy products have remained relatively high in price in comparison to other farm products, and a shortage of dairy animals in the states that were not classed as dairy states created a good market for dairy stock. As contagious abortion has been prevalent in the so-called dairy states for some time, this gave the dairy-men in those states an opportunity of disposing of infected animals, and I think that is the cause of the increase of this disease in the sections heretofore free from it. It is the cause of serious loss to the dairyman as he figures as part of his returns from his cows the young individuals, and he loses this source of income. I merely mention this, as some investigators are of the opinion that it is the cause of Malta fever in the human family. Some actual case reports would indicate that this is correct or at least producing a condition that was very difficult to differentiate from Malta fever.

If it is proven that contagious abortion in animals supplying milk to the human family is the

cause of Malta fever, the opportunity is again presented where both professions can cooperate and aid in the eradication of this disease and our health again safeguarded.

I have enumerated the diseases that concern us all; and it may be that in the future many more diseases of which we know little or nothing at present will be discovered, and the physician and veterinarian by their cooperation render mankind the same excellent service that they have in the past.

SPEAKERS BUREAU

A speakers bureau which shall serve component and district societies with scientific speakers and programs and which shall also furnish physician speakers for lay meetings is being established by the Council.

Already calls for lay-meeting speakers have been answered, but in the beginning such service is largely in connection with scientific meetings. This is especially true of the Cancer Education Month which is set for February. There will of course be cancer talks made before lay groups during that time, but this year the main effort is to have the subject properly and thoroughly discussed before as many county societies as possible so that large numbers of physicians over the state may thus be informed and prepared for the eventual and larger task of educating the public.

The future of this undertaking holds great possibilities, limited only by the willingness of Iowa physicians to cooperate. The Council urges that members of the State Society everywhere and the various component organizations give serious thought to this problem and that they be prepared to serve when called.

Requests for speakers, or entire programs on scientific subjects will be welcomed by the Council. Address the Speakers Bureau, care of the State Society. Calls for speakers from lay groups may be referred to the state office, if not feasible to answer them locally.

MAGNETIC HEALER FOUND GUILTY

Mr. W. F. Hughey, so-called magnetic healer, was found guilty by jury of the district court in session at Nevada, Iowa, December 17, of practicing medicine and surgery without a license.

—Iowa State Department of Health.

Newspaper Publicity

The subject of lay education through newspaper columns was mentioned at the 1926 secretary-councilor conference by P. W. Van Metre, M.D., secretary of the Calhoun County Medical Society. This society has engaged in a continuous and successful campaign of educating the citizens of that community regarding scientific medicine. With little or no help from the State Society or other outside sources, the Calhoun County Medical Society has gone ahead on its own initiative doing an admirable thing for the citizens of that county.

Other Iowa societies may be doing the same thing, and it is a matter of record that several are now discussing ways and means of furnish-

ing health talks to local papers. The Wisconsin State Society has for some time operated a weekly health column service for the component societies and newspapers of that state. The Minnesota State Society subscribes to this service; and it has been proposed to the Council of the Iowa Society that the same thing be done in this state.

The editor of The Knoxville Journal was invited to present before the medical society in his county his reasons for believing that organized medicine should engage in health education. His remarks were so interesting to the members of that society that the paper was forwarded to the Journal, and it is here reproduced.

MEDICAL PUBLICITY FROM THE STANDPOINT OF THE LAYMAN

By W. N. KUENEMAN

News Editor, Knoxville Journal, Knoxville, Iowa

I wish to acknowledge the assistance and counsel which I received from the Knoxville members of this society, especially Dr. C. S. Cornell and Dr. F. M. Roberts. Their aid has been invaluable, for although like Barkus, I was willin', I needed assistance and received it. They have furnished me with a great deal of reference matter which, combined with our theories makes up this paper.

This is a noisy age. The world rings with a multitude of sounds. All about us is a Babel of confused claims and counter claims, penetrating shrieks of disputants fill the air.

And amidst it all, in grim silence, sit nearly 150,000 physicians, the quietest of all earth's inhabitants. Little is heard from them. What they utter is smothered in misunderstanding. The profession is based on secrecy—from the oath, to the prescription written in a dead language.

Times have changed, but not the profession. Within the last twenty years a new Colossus has arisen, known as "Big Business" and with it have grown three sons, each a product of this new metamorphosis which has come over our business life. The first is mass production, and in order that this infant might prosper, a new one had to be created known as mass sales. This one in turn leans on another which makes mass sales possible. And that sturdy lad has grown to be himself the biggest factor in business life.

You know him. He determines what kind of shoes and suspenders you wear. He is the chap who puts Packard ideas in a Ford purse, the fellow who has brought such prosperity to America as it has never known before. Your very life is controlled by that brain child of big business which you know as advertising. Advertising is education.

When the medical societies adopted their rule prohibiting advertising, all advertising was charlatanism, and the adopted rule an excellent and ethical safeguard thrown around the profession. The science of medicine is daily evolving; it has made wonderful progress in the last fifty years. The record of the accomplishments of the medical profession will pale the achievements of any other profession or business. Men who have the title of "doctor" prefixed to their names have gone out fearlessly in peace and war to the four corners of the earth and helped lengthen the brief span of mankind's existence in this old vale of tears. There is a spirit of self-sacrifice which nowhere else can be duplicated.

The medical profession has advanced so far that the doctor who practiced today as he did fifty years ago would be a back number, and his patients would quickly relegate him to oblivion. Yet the medical rule prohibiting advertising on the part of the profession takes no cognizance of the fact that, while therapy has been in the process of rapid evolution, so, too has the science of advertising.

Advertising is an intangible thing. Yet it builds confidence in products, and has made the American people happier, has made their homes better furnished, has given them automobiles at a price they can afford to pay. It has made them want things and to want anything is synonymous with ambition.

And advertising can do the same thing for the medical profession it has done for these. It can sell the people what they want most of all—health.

I have the greatest respect for a doctor. Show me a man who is forever doing things to reduce his own income. Do you see any lawyers trying to reduce the number of lawsuits, or bankers advising people to use their sock for a safe deposit vault? The doc-

tor is forever trying to banish this or that malady, he preaches prevention instead of cure—all of which tends to reduce his own income.

But to this the cynical unappreciative public will reply: "Well what of it? He gets paid well while he's doing it, doesn't he? And what's the difference, there'll just be some other kind of sickness or some other kind of operation to become fashionable and take its place."

Let me ask you a question or two. Whose bills are always paid first, the doctor's? Now don't everyone laugh. How many baby mortgages do you hold compared with the number of gold-bond mortgages you possess? Who gets the easy money out of medical practice? It's the fakers with whom people spend money like water only to discover later that their physician is the man they must resort to, and generally they come to him as charity patients. How many of you men would have the nerve to punch a spine and charge \$5. None of you; because if you did, you wouldn't have the decency, humanity and interest necessary to have spent the preparatory years to gain your M.D. You would have taken a correspondence course in wrestling, hung out your shingle, and then have gone in for faith healing. That's where the big money is.

Yet today rings are worn to cure rheumatism, electric belts and electric insoles are used for sore feet, tin pans are placed on the head to receive radio treatments for kidney trouble, bust developers that are supposed to turn Lake Minnehaha into a condensed milk factory are sought by thousands. Herbs that not only stink like sewage but are sewage are taken religiously.

All this because the medical profession takes the stand that it is not ethical to advertise and to educate.

Delving into the problem of adequate educational publicity for the medical profession, I cannot but be appalled by its immensity. Imagine that the ancient city of Carthage with 150,000 inhabitants were to be uncovered tomorrow. Wouldn't there be some attendant complications in teaching them to accept modern medicine after they had been dealing with magicians and fakers?

But that educational problem is here right now. Adequate education of the public through the medium of publicity and advertising must be solved by the medical profession if they are to keep faith with the people. And medical men themselves must find the solution and put it into practice. And it must be solved in meetings like these by men who face the problems every day, who know and understand what the needs of the medical profession are.

At this moment there are ten million persons in this country who should tomorrow have a physical examination. Out of a hundred and twenty million of folks, the doctor gets as his patients the million who are actually suffering pain, and many of this million should have been treated years ago, before nature actually warned that something was wrong.

Without advertising the doctor sits in his office,

awaiting the call of the person who has so outraged kind nature that she has turned upon him, and with her sharp warning signals given him a dig in the middle consciousness to the effect that something is wrong.

Does the intelligent motorist wait until his motor is entirely out of gas before replenishing? He does not. He has a gauge which signals him when the tank is being depleted, and advertising has taught him the dangers of neglect. Does the woman wait until her dress is in shreds and she is in danger of being hauled before the magistrate for "overexposure and underdevelopment" before buying a new frock? She does not. She reads the advertisements and buys one or several new gowns before the present habiliments are frowsy.

How shall the people be told the truth? Through advertising.

The doctor has health to sell—the most precious thing in the world, for without it all other possessions become as ashes in the mouth or as sand in the boots.

Here I have a chiropractor's advertisement about curing paralysis. Certainly the medical profession must do something to counteract such things as these. You can easily realize that this one case is not the harm, the curse of it is the hope that it holds to thousands of other paralytics who are willing to spend their last cent in a vain endeavor to secure health. If the medical profession does not give the truth to the people, then doubt and suspicion will creep and is creeping into the laymen's minds over this unusual unmodern silence. Do you suppose the explanation that advertising is unethical is sufficient?

Fortunately, there have been a few advances made in this direction by the medical profession. Two of these have been outstanding and will suffice for this discussion. I have here a series of advertisements which were originated in Tulsa, Oklahoma, and which furnish a case of ethical advertising done by reputable physicians. They deal with the collection part of the business.

You men know as well as I do how they swept the country like wildfire, how accounts were paid to doctors they had no thought of paying.

The next experiment is not so well known, because it is more recent. It is known as the "Toledo Experiment" and was originated by the Toledo Academy of medicine. More than 300 articles have been prepared for publication, in health column style, under the title of "Said By Toledo Doctors". It has proven to be a highly successful experiment and seems to be the solution of one angle of medical education and publicity.

I pick at random some of the titles used on their articles. Colonel Gorgas and the Panama Canal, Monkey Glands, Harvey and the Circulation of the Blood, Self Diagnosis, Sunshine, Snuffing Salt and Water, Question on Rabies, Changing Doctors, Cancer Education. Aren't each of these intriguing subjects? Wouldn't you like to read every one of them?

But how did the Toledo doctors do it? Are they better enabled to than the Marion County Medical Society? I hardly think so. They did it simply because they are convinced of the need of adequate educational publicity, and not one man, nor three men, nor a committee did the work, but every bloomin' doctor did his part, prepared his articles and submitted them to the committee for approval.

It may be thankless labor. Most worthwhile things are. Yet if the medical profession is to endure upon its present high plane, it must recognize the need of advertising and publicity.

It will make your practice more profitable, because it will place it on a basis that people will recognize the same as they recognize their grocer and their butcher. That bills must be paid to a doctor the same as anyone else.

But this must not be entered into with the idea of selfish gain. To do that would insure its failure. The exposure of the quacks and the collection of bills must come simply as part of the campaign which will establish the medical profession in the average mind as the only competent health authority.

This movement must begin in the county societies. It must be carried to the State Society and then on to the National Society to secure recognition. I hope the day will not be far away when the Ameri-

can Medical Association will use a paid display advertisement in every newspaper in the United States announcing to the people the latest developments in medicine as they are discovered and proven beyond all doubt.

It would not be long then until the American public would be educated to the point where they would look upon these announcements as the final authority.

In closing I want to tell you men that you have the greatest thing in the world to sell—health. It can be sold to the people in a decent, ethical manner which will place the quacks in their right light; and place your profession on a business basis.

I hope the time will come when the two extremes in the medical profession—the doctor who advertises individually and the doctor who advertises not at all—will be banished.

As editor of The Knoxville Journal, I make this offer to you. If you men will sincerely undertake the work of writing a weekly health feature, we will publish it free of charge. We are willing to cooperate with you in any manner which will present our readers with health facts which they need and want. But I warn you that it must not be the individual efforts of a few, but the concerted effort of every member of the Society, if this is to be a success.

STATE HEALTH COMMISSIONER'S PAGE

 Henry Albert, M. D. 

PREVALENCE OF COMMUNICABLE DISEASES

INFLUENZA

Influenza is the outstanding communicable disease of the state—and indeed of the nation—at the present time. This pandemic started on the Pacific Coast early in September. It increased in intensity and apparently reached its peak in many California cities in November. The epidemic gradually moved eastward and reached Iowa early in December. The disease moved eastward, along the lines of travel—being carried chiefly by mild cases or persons who leave influenza districts having become infected. As was to be expected, the larger cities in the western and central portions of the state were the first to become involved. At this writing (December 21st), it appears to have passed its peak in Council Bluffs, Sioux City and Des Moines. The epidemic is just beginning in many of the medium

sized cities and, will, no doubt be in full swing in many of the country districts, at the time this copy reaches its readers.

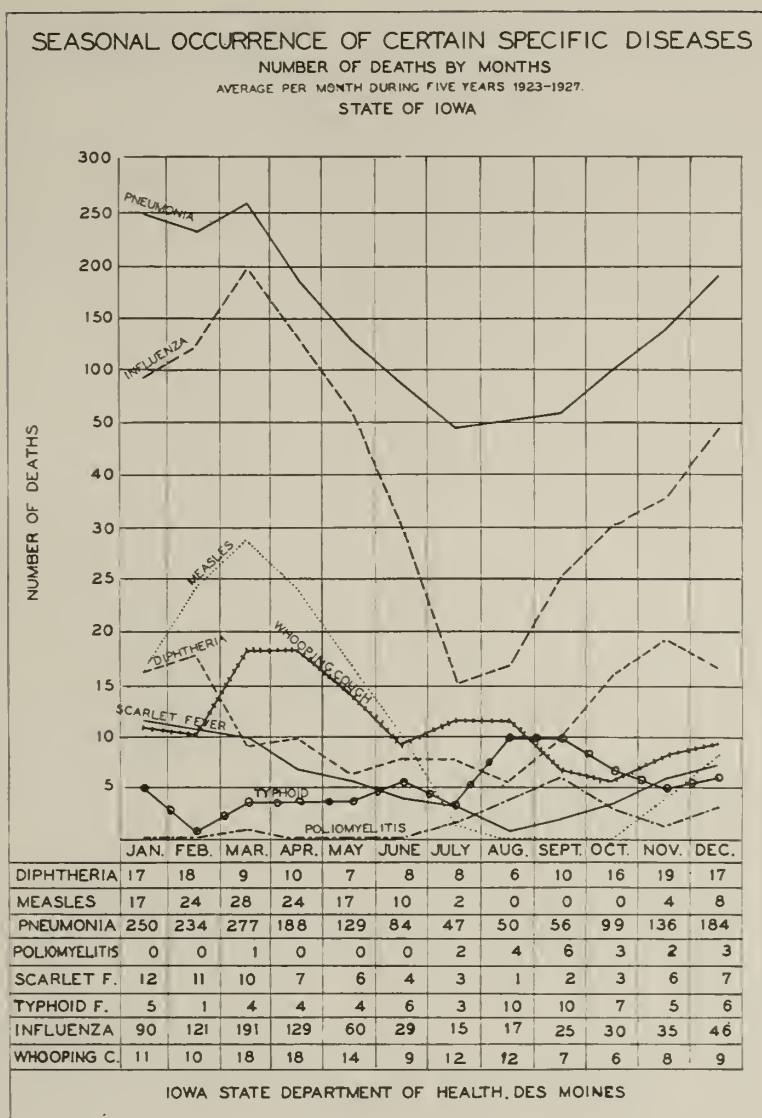
At this writing influenza is being reported from almost every state in the Union.

This is of course the most extensive and serious epidemic of influenza that this country has seen since 1918. The cases are for the most part, mild—much more so than were those of the war time epidemic of 1918. There are however many severe cases and quite a number of deaths have already been reported.

There is much difference of opinion among physicians and public health officials regarding the closing of schools, in time of epidemics of influenza. The following is quoted from our "message":

"Influenza is practically the only disease which warrants consideration of closing of schools.

"Experience has shown that most epidemics



can be kept under better control with the schools kept in session than when they are closed and the children permitted to roam the streets and gather in uncontrolled promiscuous crowds.

"An influenza epidemic well started usually reaches its height in about ten days. If one can avoid contracting the disease during the first three weeks of such an epidemic the chances are that he will escape it entirely.

"An absence of one-fourth of the school children because of influenza would seem sufficient reason for closing the schools unless there is a very efficient health inspection service.

"Of course, there is no object in closing schools, unless children are kept at home. They should of course not go to movies, nor mix in crowds on the street."

The "farmer" bulletin stated that "Farmers are in a better position to avoid the flu than are most city people, but once they contract the disease they are more likely to have complications."

The greater danger regarding complications is based on the difficulty, because of the necessity of doing chores—of getting the farmer to take to his bed as soon as he gets ill and staying there until he has recovered.

As will be noticed by the accompanying chart, the seasonal heights of deaths from influenza usually occurs in March. The present epidemic should cause this year's height to occur in January. An extensive epidemic of influenza is often followed, in the course of a few months to a year, by a secondary wave.

PNEUMONIA

As indicated in the accompanying "seasonal" chart, this is the time of year when the pneumonia rate is at its height.

The influenza epidemic will materially add to the usual seasonal increase.

The pneumonia which accompanied the 1918 "flu" epidemic was largely caused by hemolytic streptococci. Such cases cannot expect to be benefited by antipneumococcic serum. Park of New York has recently developed a polyvalent antipneumococcic serum which should be of value in the majority of cases of lobar pneumonia caused by pneumococci. This is being manufactured by Lederle and Co., New York.

SCARLET FEVER

Scarlet fever of a mild type continues to be prevalent in many parts of the state. It is being reported chiefly from Polk, Blackhawk, Grundy, Hardin, Mitchell, Dubuque and Wapello counties.

DIPHTHERIA

Diphtheria is reported chiefly from Cherokee, Blackhawk, Story, Clinton and Fremont counties. It is interesting to note that in none of these counties, except Clinton, has any considerable proportion of the children been immunized against diphtheria with toxin-antitoxin. In Clinton county, the cases were reported chiefly from the country districts where but little immunization had been done.

Our diphtheria is of an unusually severe type. It is well for all children from nine months to sixteen years of age, to be immunized. There need be no fear of danger either from the immediate reaction or the sensitization of the patient. It is not advisable to make a Schick test for susceptibility previous to the first course of immunizing treatment. You may if you want to, use the first injection as a modified Schick test. As worked out by Park of New York, this first injection, of the regular sized dose (1 c.c.) of toxin-antitoxin is given subcutaneously (the regular way) in the front of the arm a little above the elbow. If, at the end of a week—the time for the second dose—there is still redness, it has the value of a positive Schick test and the second and third doses should be given. If the redness of the reaction has disappeared by the end of the first week, the patient may be regarded as immune.

SUSPENSION OF LICENSE TO PRACTICE MEDICINE FOR ILLEGAL DISPOSAL OF INTOXICATING LIQUORS AND NARCOTICS

Physicians generally, we believe, are familiar with the laws relative to the revocation of a license to practice medicine as given in Section 2492 of the Code of Iowa.

Not so many seem to be familiar with the law as it pertains to the suspension of the license to practice because of illegal disposal of intoxicating liquors and narcotics.

Recently, several physicians in the state have been found guilty of such practice, and have had their license to practice medicine in Iowa suspended. We are informed that other physicians are now being investigated by federal agents. The law relative to this subject is found in Sections 2104 to 2110 of the Code. The suspension is for "a period of not less than one year and not more than five years". The suspension order is required of the district court upon conviction of the violation of the statutes relating to intoxicating liquors and narcotics.

We are informed that with the incoming administration, federal agents, are likely to become more active in obtaining evidence and securing conviction.

NOTICE

A letter dated January 8, 1929, was sent out by the law firm of Newport and Steffen of Davenport, Iowa, in which they stated that a bill would be presented to the Iowa State Legislature in its next session, which would repeal all statutes providing for issuance and filling of liquor prescriptions.

The legislative committee of the Iowa State Medical Society is taking this means of informing the doctors of the state that the law firm of Newport and Steffen is a reliable, ethical firm, that their motives in writing the doctors are honest and that they are endeavoring to get an honest expression from the doctors of the state in regard to the proposed measure.

It is hoped that you will answer the questions and will feel free to communicate with Mr. W. A. Newport on any matters contained in the letter.

Thomas A. Burcham,
Chairman of the Legislative Committee.

INVESTMENT ADVICE OFFERED

A Des Moines bond firm which is particularly anxious to call its investment opportunities to the attention of Iowa physicians is using the advertising pages of the Journal to list some of its offerings.

This new advertisement of the Ballard Hassett Company appears on advertising page xvi of this issue.

The Journal of the Iowa State Medical Society

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No. 1

Best Method of Caring for Indigent Sick

Furnishing medical service for the county poor presents a serious problem to the members of most county societies in Iowa. The Haskell-Klaus law provides for those needing hospital care, and the situation here referred to does not in any way affect the operation of that law; but the ambulatory and home bedside cases and all inmates of county jails, poor farms, etc., present a grave problem. How is the county to pay for medical services for these cases that must be cared for locally? Supervisors, social workers, volunteer agencies, medical societies and individual physicians have tried various solutions; but, with one single exception, every method has various drawbacks, most of which end by working numerous hardships upon the medical profession.

This successful method has for sometime past been in satisfactory use in five societies. Three others are now contemplating adoption of the same system. The plan is that of a blanket contract between the medical society and the county supervisors, by which the county pays a fixed annual sum in return for which the society furnishes for the county poor all medical care not provided at the University Hospital un-

der the Haskell-Klaus law (including chronic or incurable cases discharged to make room for those who can be benefited by hospitalization at Iowa City).

The annual payment varies from \$1,600 to \$3,250 and goes into the society treasury. Service to the indigent sick is rendered upon order of the supervisors, township trustees, or other authorized persons; and such service is distributed among the members of the society as evenly as possible.

The societies having such contracts are Hardin county, Marion county, Marshall county, Webster county and Waterloo (the latter being limited to the city of Waterloo). Monroe, Page and Tama counties have similar proposals under consideration. The advantages of this plan, according to its advocates are:

1. Unjust inequalities in payment to physicians for indigent services, eliminated.
2. Removal of friction between the county medical society or its members and the board of supervisors or social workers.
3. General satisfaction of the community with its physicians because of effective medical service given to the indigent sick.
4. A full treasury which solves the financial problems of the county society.

The latter point is an important one in many ways. The secretary-treasurer never needs to worry about collecting dues, nor members about paying; for county, state, and A. M. A. dues can all be paid out of the general funds of the component society. Expense money is always available to bring the best of speakers from even distant points, so that the problems of the program committee are solved.

As an illustration of the financial success of this plan, it is interesting to note that the society which receives the smallest per annum payment still has in its treasury some \$7,000. Such surplus can of course be distributed annually among members on the basis of service rendered. Incorporation of the county society is a necessary step since the corporation can then enter into a contract with the supervisors, and more especially since incorporation relieves the member physicians of any individual liabilities for acts of others.

The Council is giving special attention to this growing development among component societies in Iowa; and will gladly assist, through the state office, any society interested in this plan.

VIENNA

For generations American doctors have come to Vienna for post-graduate study. Whether this long and expensive pilgrimage is really worthwhile will depend, to a large extent, on the individual status of the pilgrim. In this connection some of us will recall the pertinent advice, "take less pathology and study a few manners", given a few years ago, by a famous Iowa surgeon to a younger, less polished associate.

Wherever Anglo-Saxons congregate, it is their custom to organize, to hold elections and to pass resolutions. It is, therefore, only natural to find this tribal characteristic exemplified in establishment of the "American Medical Association of Vienna". At its formation on November 28, 1903, the Association had only thirty-five members, at present, it numbers over four thousand, more than one thousand having joined within the past two years. (Blue Book 1927-1928.) Including a considerable proportion of doctors from Great Britain and her Colonies the organization now has approximately two hundred resident members.

This society is a gratifying example of American initiative and efficiency. The orientation of the newcomer is accomplished promptly and the confidence of the native has been gained to a degree that would redound to the credit of a modern tourist agency. The Blue Book, a veritable mine of information, may be obtained from the Secretary, Cafe Edison, Alserstrasse 9, Vienna VIII, Austria.

It has been the desire of the association to have its own home. This ambition is about to be realized. At a meeting on November 7, the president, Dr. R. A. Reynolds of San Francisco, announced that the City of Vienna had offered the Society a permanent and a suitable residence in one of the new municipal apartment houses. It is to be located in the ninth "Bezirk" on the site of the old "Versorgungshaus" Spitalgasse and Wahringer Strasse. Since the building in question is intended primarily for local doctors and their families the arrangement will be particularly appropriate and desirable.

It is often contended that there is no longer any need or excuse for American physicians to study abroad. It is pointed out that we have better medical schools, more skillful surgeons and finer hospitals than are found anywhere in Europe. During the summer and fall of 1928 one of our well known American pediatricians was enrolled here as an enthusiastic and diligent student of his specialty. This ambitious young man is a teacher in one of our best medical colleges and is the author of a ten-volume work on Diseases of Children. He has not yet concluded his studies. It appears that the question whether a given doctor needs to do post-graduate work anywhere will depend on his state of mind. A student who is regularly and frequently reminded of the fortunate circumstance that he is receiving a unique, thorough and a complete medical education is apt to believe it eventually. It is an old observation that if he believes it very long he never will be fit to practice any branch of medicine. Usually in actual practice he is disillusioned rather promptly. Only then is he

"VIENNA"

THIS article has been especially prepared by Dr. Nicholas Schilling of the New Hampton Clinic, New Hampton, Iowa. Dr. Schilling is now in Vienna and his impressions stated in this article are all "first hand" ones.

We are pleased indeed to announce that other articles dealing with Dr. Schilling's "impressions" of Vienna and the clinics will appear in later issues of this Journal.

THE EDITOR.

in shape to begin any serious medical enterprise. He can make satisfactory progress only after he has acquired a proper attitude toward himself, toward the profession and toward the public. The value of momentary attainments is much overestimated. It is a foregone conclusion that he will not have a good time if he is so endowed and so trained that he can "reckon success only in dollars". The man who expects to sell his medical knowledge at so much per yard, to the highest bidder, had better not come to Vienna for post-graduate work. A three weeks intensive course in some chiropractic school will serve his purpose better. Extravagant ambition and fine enthusiasm will lead nowhere unless they are well directed.

Every physician must work out his own professional salvation. In case that early in his career he receives competent advice, and follows it, he is fortunate indeed. More often he is entertained with romance and poetry only to find that

the practice of medicine in all its manifold applications in the clinic and at the bedside is an immensely big and practical affair.

Vociferation of the American Eagle to the effect that all men born within the limits of our Republic have an equal chance for success is a boast that, nowadays, needs to be modulated somewhat. At any rate, the most casual investigation will show that this theory does not apply in the matter of medical preferment. Social position, consanguinity, nuptial arrangements, racial, religious or political influence are all factors that will help to turn the scales in favor of a given candidate. In fact, an applicant with nothing more to support his claims for a desirable medical appointment than personal merit is liable to be considered in the light of an intruder. He is in luck if he isn't reprimanded for becoming dissatisfied with the sphere in which heredity and environment have placed him. It is true that there are positions of advantage and opportunity to be gained through competitive examinations. That such contests cannot determine conclusively, the intrinsic worth of a medical student is equally clear. Anyway, an aspirant with a passion for knowing his work will refuse to be eliminated from the final race on any terms. On looking back on a handicapped or a misguided professional youth he will not despair. On the contrary, he will thrive nicely on difficulties. After having realized, finally, what the practice of medicine is all about his progress will be satisfactory. The plan for his redemption, formulated in the hard school of personal experience and enforced reflection will be carried out with characteristic American intensity.

At this critical stage of his development he can do nothing better than to submit his credentials to the Membership Committee of the American Medical Association of Vienna. Here he will find organization and system under efficient supervision. He will find here classified and accessible a wealth of clinical material. In other words he is given opportunity to study intelligently many sick people.

In teaching post graduate medicine the Vienna School has had much experience. It need occasion no surprise, therefore, to find that it has evolved methods of instruction that are singularly practical and elastic. It offers not only the comprehensive and systematic course suitable for the pale valedictorian and the blase superman, even the three months specialist who comes here primarily to secure a "Zeugnis" (certificate of attendance) is accommodated. The Vienna faculty exhibits a sympathetic understanding for the

"self-made man" from the "wide open spaces" engaged in the quixotic attempt to cover the whole field of modern medicine. And the average doctor who has finally determined to learn how to do one thing reasonably well is given adequate consideration. In fact, the advantages provided for this type of student are not often approached anywhere else. Since the days of Skoda and Rokitan-sky specialization in medicine has been encouraged and taught by a succession of brilliant and inspiring teachers.

On October 19, 1928, at a meeting of the Vienna Medical Society, Professor C. Fleischmann reviewed the transactions of the International Conference for the Study of Cancer recently held in London. He concluded his report with the observation that his countrymen were eager to participate in the solution of this problem. In tragic words he described their financial helplessness for such a pretentious undertaking. That things are never quite so bad as they seem is well illustrated by this incident. For, the very next day there appeared in the *Neue Freie Presse*, the following announcement, "A New Research Institute and Hospital in Vienna for the Study of Cancer and Blood Disease". Then, there follows a reference to the steps that have already been taken, and there is expressed the confident hope that the plan will soon assume concrete form. It states that the idea originated with the American philanthropist, Mr. C. Corring Childs. He traveled all over Europe to find the location offering the most favorable conditions for his project. He finally selected Vienna because this city has long been a medical center where, from all over the world patients and students of the healing art have congregated. Also, an account of its geographic situation Vienna was decided on as the logical plan for this enterprise. Mr. Childs has already placed a substantial fund in a local bank. He and his friends are now actively engaged in soliciting the cooperation of other wealthy people. Whatever may be the significance of this secular proclamation it should tend to revive the courage of our Vienna colleagues.

At any rate, it is to be hoped that the institution as planned will soon become an accomplished fact. It may succeed too, in changing the opinion of a well known pathologist of Vienna who declared some years ago that the cause of cancer could never be discovered.

On November 23, after a short illness the eminent surgeon Paul Albrecht died. He was born in Vienna in 1873. He studied pathology under Weichselbaum. In the Gussenbauer Klinik now in charge of the Venerable Hochenegg he

received his early surgical training. Professor Albrecht was Primarius at the Elizabethspital. As secretary of the Gesellschaft der Artzte he exerted an immense influence on the scientific life of Vienna. His courses on surgical diagnosis were a delight. These excursions into the realms of pathologic anatomy constituted a welcome relief from the pyrotechnic displays of mere operators. Diseases of the lymph glands and malignant tumors were a favorite topic with him. He contributed the chapter on surgical diseases of the lower abdomen in Hochenegg's standard textbook. In his operative work Albrecht exhibited rare judgment and ingenious originality. A field ambulance convertible, within five minutes, into an operating room gave evidence of this native resourcefulness. Many surgeons are familiar with Albrecht's Halogenlosung, a very effective antiseptic solution. Just lately he has been engaged in a critical study of the various agents used for the induction of inhalation anesthesia. Surgeons, generally, will approve his conclusion that not one of them is ideal and that the nearest solution of the anesthesia problem consists in selecting the best combination available for each individual case. Paul Albrecht enjoyed an enormous surgical practice. In the daily routine of practical affairs his versatile social adaptability gave him a great advantage. Trusted by peasant and patrician he was a favorite at court. All classes of the population will miss him much.

—DR. NICHOLAS SCHILLING.

of the American Life Convention, (of which I happened to be an ex-president) and to a number of other physicians. This occurred a year ago last spring—I am now completing my fifty-second year of active practice. In reference to your quotation from my address, that "more progress had been made in the medical sciences in the last fifty years than in the twenty centuries preceding"—I did not mean or intimate that there was no progress made during that time; although of course there was comparatively little progress made during the thousand years of the middle ages—but even then there was progress in certain places—notably by Moors of Spain who were the chief conservators of learning during that dark period—but with the dawn of the renaissance in the fourteenth century, there was general awakening of progress in medicine, as in all other lines of knowledge.

Quoting from my address: "Few if any great discoveries are made outright by a single individual. They are usually the accumulated experience of many workers extending over long periods of time, until some lucky individual forges the connecting link, that brings the idea to fruition.

"Lewenhock, the early Dutch Microscopist, with lenses of his own grinding, discovered and described bacteria—and formulated the germ theory of disease, but it took two hundred years of accumulated research to enable Pasteur, and Koch, to demonstrate the fact of this theory, and change it to the Germ Cause of Disease."

Again thanking you,

I am very sincerely yours,

G. E. Crawford.

November 26, 1928.

Dr. Ralph R. Simmons, Editor,
Journal Iowa State Medical Society,
Dear Doctor Simmons:

I desire to thank you for the very kind editorial notice of my fiftieth anniversary of entrance to the medical profession and what you say in regard to my address.

There was a slight error in regard to the statement of the occasion being "A meeting of the officials of the Cedar Rapids Life Insurance Company". It was a regular meeting of the Linn County Medical Society in which the banquet was given in honor of the fiftieth anniversary of my entrance into medical practice. A number of doctors from other county societies were also present; also a number of layman with whom I had been intimately associated in various ways during these years, and including the officials of the Life Insurance Company—as my guests. These officials were so pleased with the occasion that they asked permission to have my address published in an artistic pamphlet; and it was sent to the agency members; The Medical Directors

CANCER EDUCATION PROGRAMS IN FEBRUARY

A number of excellent and well qualified speakers upon cancer subjects have been recruited by the Speakers Bureau; and Dr. William R. Jepson, Sioux City, chairman of the cancer division, reports that calls can be answered in any part of the state.

In response to the suggestion made by the cancer division of the Speakers Bureau, a large number of societies have already reported to the state office that they will hold a cancer program, or have at least one paper on the subject at an early meeting. Many of these involve calls for speakers and the bureau has arranged to fill the dates.

Has your society planned a cancer program in February? If not a request to the state office will get you a good speaker or an entire program, as you prefer. This is the first task undertaken by the Speakers Bureau and it is the hope of the Council that complete cooperation of all society officers may make a great success of Cancer Education Month in February.

Secretary-Councilor State Conference

SO many county medical societies in Iowa have been troubled with local health problems that the morning session of the annual Conference of Deputy Councilors and Secretaries held in Des Moines December 13, 1928, was devoted to a symposium on: Methods of coordinating local health activities. The meeting was called to order by President McManus at 10 a. m. By motion Dr. S. T. Gray was elected honorary secretary and Mr. Vernon D. Blank as active secretary. Dr. Channing G. Smith, Chairman of the Council, gave a report of the State Health Conference held in Des Moines, November 19 at the invitation of the State Medical Society. The purpose had been to advise with state officers of official and voluntary agencies as to best methods of securing proper medical guidance and aid in their various local health activities. As a result of this earlier meeting, the Council felt that the interests of the component societies could best be served by continuing the discussion in this forum. Accordingly the Council invited the proper representatives of these different agencies to present briefly their health activities in order that this Conference might then intelligently discuss the problem of coordinating these programs within the local community. Mr. Blank, Managing Director, then explained how the state office was being organized so as to assist in the solution and handling of such county society problems, and that among such services a scientific program and lay speakers bureau had been started.

UNIVERSITY MEDICAL COLLEGE AND HOSPITAL

Henry S. Houghton, M.D., Dean of the State University Medical College was then introduced to speak upon The University Medical College and Community Health. He made the following points: 1. The hospital program is carefully and closely adjusted to teaching requirements. 2. The basis of work is a constructive cooperation, and protection of the interests of the profession is an essential part of the university program. 3. A cordial and co-operative attitude has been shown by the Board of Education to the end that most of the problems connected with the University Hospital have been solved. 4. The few difficulties now existing between the Board of Education and the Society are minor ones and can be solved without drastic changes in the law.

COUNTY WELFARE WORK

County Welfare Organization and the County Medical Society was the next subject, and Dr. E. H. Lauer, director of the State University Extension Division, spoke substantially as follows:

"County welfare organization aims to put the matter of poor relief within a county into the hands of trained personnel, in order to insure effective and economical use of public and private funds.

"An effective health and welfare program in a county involves: Adequate medical and dental service for all, adequate nursing facilities, adequate hospital facilities, adequate provision for the enforcement of health and welfare legislation, and adequate machinery for the investigation of social situations giving rise to welfare problems in the lives of individuals and families.

"Therefore welfare organization is a necessary part of an effective health organization bureau, because (1) a large per cent of the welfare problems originate as health problems, and (2) an effective health program is largely an economic problem, and the aim of welfare organization is to increase the number of economically independent families.

"It follows that a close cooperation between the welfare organization and the county society is not only desirable but essential to the success of the undertaking. From the point of view of the society the advantages of close cooperation would seem to be: (1) The social welfare official can serve as a public relations officer between society and county government. (2) The welfare organization can aid by determining whether persons should be allowed to benefit either, by state aid, from the county poor fund, or by the charity of the individual physician. (3) The social worker can help make the treatment prescribed by the individual physician more effective by aiding the family concerned to arrange its affairs so as to profit by the professional service.

"The advantages of close cooperation to the social worker are evident: Working with the society would make the solution of many family problems possible. The whole question of care of the indigent sick (within the county or in state hospital) could be worked out, leaving interested parties, doctors, county officials and public, satisfied. This latter is very important because food will is essential to welfare work. The welfare organization would have the intelligent support of the physician—an influential group in the formation of public opinion. Satisfactory solution of family health problems would do more than anything else to enable social workers

to bring families to a place of independence rather than dependence."

IOWA TUBERCULOSIS ASSOCIATION

"The Iowa Tuberculosis Association and the State Medical Society" by Mr. T. J. Edmonds, executive secretary of the Iowa Tuberculosis Association, was the next paper. After pointing out that the Christmas seal sale is important at this time of the year, to advance the health movement in the state, the speaker made the following statements:

"Tuberculosis work is represented in every county throughout the state by a local public health association. It is a movement that was conceived and created by physicians, that is managed by physicians, and is financed by the general public including physicians. Through the sale of seals this association is financed.

"The nurses associations are interested in this work; and various groups interested in other diseases have broadened the general public health movement. The purpose of the State Medical Society is to coordinate and simplify these different health activities.

"The Tuberculosis Association spreads information on prevention, and clinical conferences are held as a regular monthly meeting of a county society. There has been started a post-graduate course in tuberculosis and heart diseases in which we are vitally interested; and the university is going to make that sort of post-graduate course an important thing in the future.

"Effort should be made to get across to the people the things that the general public should know. We must educate people to visit their family doctor, by using posters, newspaper articles and speeches.

"This field offers the best common ground of co-operation between the medical association and voluntary agencies; and also offers us an opportunity to be of real service to the medical profession. Let us organize public sentiment and coordinate lay activity."

PARENT-TEACHERS ASSOCIATION SUMMER ROUND-UP

Mrs. B. C. Hopkins, president of the Iowa Congress of Parents and Teachers, was then introduced and she read the following paper:

"The National Congress of Parents and Teachers is an organization which brings together the home and school in an effort to better understand the needs of childhood and to secure for each child the right to be developed physically, mentally, morally and spiritually to the best of his capacities. This organization with more than a million members in forty-nine state branches has a very definite program of child welfare of which the part dealing with child health will be discussed in this paper.

"The Iowa Congress of Parents and Teachers with a membership of almost 50,000 is the group which carries this program down into the Parent-Teacher

Associations of this state which are the local units in this movement.

"Believing that a definite responsibility rests upon the home to send children to school who are able to take advantage of the opportunities there offered, the National Congress inaugurated in the summer of 1925 the 'Summer Round-Up of the Children'.

"Briefly the idea of the Round-Up is to send into the beginning grade of each school a class of children who are free from remediable physical defects. This project is open to every Parent-Teacher Association which is in membership with the State and National. The plan provides for a survey of the school district in the spring to secure the names and addresses of the children who will enter school for the first time the following fall; to have these children examined in the spring for physical defects; have such defects as are remediable corrected during the summer and a check-up in the fall to determine what corrections have been made. In 1925 there were 102 associations in twenty-two states enrolled in this campaign, while, in 1927, 2120 associations in forty-four states conducted a round-up in which 13,520 children were examined and 6,173 defects were corrected. The complete returns for all states for 1928 will be available January 1st.

"From the very first the American Medical Society has given its hearty support to this campaign, has contributed the examination blanks for the past two years and has given publicity to the Round-up through the pages of Hygeia. Other national groups giving cooperation have been the U. S. Bureau of Education, The Children's Bureau, the National Education Association, The American Child-Health Association and the American Red Cross.

"The Parent-Teacher Associations of Iowa have been interested and active in the Round-up each year since its beginning. In 1925 there were 9 associations in 7 towns which registered and through whose efforts 46 children were examined and 30 defects corrected. It is interesting to note that the per cent of associations which have completed the campaign has been increasing since 1926: 33 and one-third per cent in 1925; 21 per cent in 1926; 25 per cent in 1927 and 43 per cent in 1928. While the campaign is conducted from the National office, each state is allowed to make plans for the guidance of local associations and the following are the steps taken in the 1928 campaign in Iowa by the Iowa Congress.

"Early in the year a conference was called of representatives of those groups which could be expected to be interested in the conduct of the Round-up, such as the State Medical and the State Dental Societies, the State Department of Health, the Division of Public Health Nursing, the Red Cross, the Iowa Tuberculosis Association, the Extension Divisions of the State College and State University, the State Teachers Association and the State Department of Public Instruction. At this conference the best method of conducting a Round-up was discussed with a view toward making it a success throughout the state.

"Following this conference a letter was sent by the chairman of the Child Hygiene Committee of Iowa Congress to the president of each local association explaining the Round-up and enclosing a copy of the method of procedure. This method of procedure suggested that the approval and cooperation of school officials and Medical and Dental Societies in each county or local physicians in each town should be secured before undertaking the work. It also advised that parents should be encouraged to take their children to their family physician and dentist for examination. It was hoped thereby to avert the difference in diagnosis between the clinic doctor and the family physician which is disturbing to the lay mind and as a consequence often results in no corrective measures being taken by the parent.

"Letters were sent by the Iowa Commissioner of Health, to all County Medical and Dental Societies, and by the Director of the Division of Public Health Nursing to all Public Health and School Nurses explaining the Round-up and asking their support of it in their communities. As a result 123 Parent Teacher Associations registered for the 1928 Round-up. These represented 49 communities; 88 in cities, 33 in towns and 2 in rural communities.

"As all reports go direct to the National office and are not available until January 1st, a questionnaire was prepared and sent to each association in the state which had registered in order to get information upon which to base this paper and the discussion which will come later. These questionnaires were returned by 47 associations from 43 towns in 16 counties. Eliminating 6 which are incomplete or show no work done, a summary of the other 41 gives the following information:

"Entering school for the first time this fall in these 41 schools were 1493 children of which 984 were examined last spring. Of these 182 or 17½ per cent were in perfect physical condition, while 802 had 2086 physical defects.

"The fall check-up of 657 children showed 322 or 47½ per cent who were free from physical defects, an increase of 140 children who were free to learn; 270 children had had 471 defects corrected, while 145 had had no corrections made. Four of these schools sent all children to the family physicians for the first examination, while some of the children in five other schools went to the family physician for examination.

"It may be interesting to state that 68 per cent of the defects found by the family physician were corrected while only 22 per cent of the total number found were corrected.

"All of the remaining 37 associations (with the exception of 2) reported they had secured the consent of the local doctors for the clinics which were held to examine the children for defects. In 11 of these the doctors and nurses donated their services; the others (26), being financed in different ways: 12 by the Parent Teachers Association, 2 by the

Parent Teachers Association and school board, 3 from school funds, 5 by Christmas Seal funds, 1 by the parents and doctors, 1 by Sheppard Towner funds, 1 by the Visiting Nurses Association, and 1 by the charge of \$1 per child examined.

"In answer to the question, 'If Summer Round-up was not completed, tell why it was impossible', the fact was brought out that it was hard to get parents to have their children examined. Either lack of knowledge of the retarding effects of physical defects upon a child's mental development or no money to pay for these examinations could account for this; either one shows a great need for public health education, for the American people will find the money when they are convinced a thing is necessary.

"Several workers reported that as soon as the doctors in the clinic discovered a defect and the need for correction explained, the parent was anxious and willing to take the child to the family physician for correction. Might this not be one good result of the clinic method? One association reported that the first clinic had cost so much that there was no money for the second examination and for corrective work for those who could not afford to pay. Two associations reported that no follow-up work was done or check-up made following the free service of the nurses and doctors in those two towns as the interest of parents was not sufficient, due to a lack of health education.

"From one association came the report that 24 defects in one child were discovered at a clinic by three prominent physicians who agreed something must be done to save serious trouble later. These defects were nineteen carious teeth, some rotted to the gum, a hernia, a spinal curvature, heart trouble, diseased tonsils and adenoids. The mother, quite concerned, went to her own physician who laughed at the findings of the other doctors. Thus we have a child probably doomed to a life of ill-health while men of science differ. In this same city is a little boy badly in need of circumcision. The father was too proud to take charity, so arrangements were made with the county to do the work for \$31. This sum coupled with the father's dread of publicity may result in this child not having the attention he needs.

"One city reported that in 1926 a committee was appointed to interview the physicians and secure their cooperation but none of these with the exception of the county health officer seemed in favor of a Round-up so the project was not pushed. In 1927 it was decided by the associations in that city to send the children to their own physicians. But with few exceptions the mothers, who took their children to their physician, were sent home without an examination, one doctor even tearing up the examination blank and throwing it into the waste basket. Not discouraged, in 1928 the parent teacher workers in this city selected the physician who had been most radical against the Summer Round-up in former years and he with the county health officer and a

dentist conducted a clinic charging \$1 for each child examined and the defects were corrected by the family physician. Credit should be given to this man who was willing to acknowledge thus publicly that he had been in error.

"At this time let us state the ways in which the medical profession may be helpful in making the Summer Round-up of benefit to the future citizens of Iowa:

1. By helping to bring to the attention of parents the benefits to their children of an early correction of physical defects.
2. By taking the initiative in making plans for a Round-up which will meet local conditions.
3. By showing a sympathetic attitude toward volunteer workers who in their enthusiasm sometimes make mistakes.
4. By active support of legislation looking toward a public health nurse in each county to direct follow-up health work.
5. By helping to make possible the ultimate aims of the Round-up—that each child from birth to maturity shall have an annual positive health examination.

"As an illustration of the results which may follow such a work it seems proper to give the results of the Round-up in one city in Iowa. The Parent Teacher Associations of Ames have been entered in the Summer Round-up every year since its inauguration in 1925. The fall of 1926 a survey was made of the first grade children and the following facts were ascertained. There were but eleven complete failures in all the first grades in the city. According to their physical examinations eight of these had adenoids or diseased tonsils, one had poor eye-sight, one had carious teeth and a bad heart condition and the other had entered school late and there was no record of his physical condition. Of the three partial failures, one was badly handicapped with nose and throat trouble and a general anemic condition, one had carious teeth and there was no record of the physical condition of the third.

"The first grade teachers reported that the children entering first grade that fall had a better mental status, were more alert and more capable of grasping the work given them and that there were fewer absences than in previous years. Every day lost at school costs 63.3c; every child who repeats a grade costs the tax payers \$109.93. But over and above any financial consideration the welfare of the child should stand paramount.

"Our interest as health workers should not be merely to prolong life but to make it more abundant. Every child has a right to be free to learn, unhampered by physical defects, free to grow, physically, mentally and spiritually, and so have a fuller richer life. Is there not a challenge in this to every one of us? May careful consideration be given this matter by the medical profession of Iowa."

FEDERATION OF WOMEN'S CLUBS

"The Health Program of the Iowa Federation of Women's Clubs and the Local Physician" was then presented as follows by Mrs. Casper Schenck, chairman of the department of health:

"The division of public health of the Iowa Federation of Women's Clubs is a part of the department of public welfare, with Mrs. W. A. Sanford of Cherokee, general chairman. The other divisions are child welfare, problems of delinquency and problems of industry. These divisions have worked individually and collectively for the benefit of the whole department.

"Briefly, the working plan of the division of public health has been the formation of a committee of eleven, one from each congressional district, which meets with the chairman in Des Moines in March and September of each year to discuss plans and results. We have tried to cooperate rather than to initiate, in order to avoid duplication.

"However, every year we have presented resolutions to the federation, endorsing certain phases of public health work in which we were particularly interested and we have tried to promote these definite lines. This year we have sponsored the sale of Christmas seals, yearly health examinations, diphtheria immunization, and at least one health program in every club.

"In addition to these activities, we are trying to arrange for a health survey to be made in two towns in each congressional district, one under 5000 in population, the other over that number. In some sections of the state the plan is being carried on at present and the county medical associations can be of real service in this undertaking. The State Board of Health has been very helpful in giving aid.

"The division of public health includes the following subdivisions, community hygiene, personal hygiene, social hygiene, mental hygiene, public health nursing, occupational therapy, tuberculosis, narcotics, and vital statistics. No club could devote sufficient time to study all of these subjects, but from reports sent to the chairman we feel that the entire division has received consideration along some line.

"Following the plan to emphasize the present day conception of public health as an individual and community problem the division of public health of the Iowa Federation has cooperated with the State Board of Health, the Iowa Tuberculosis Association, the State Medical Society, various county organizations as farm bureaus, medical associations, county fair boards, parent teachers' councils, extension workers from the state schools and other recognized social agencies.

"The division has worked for more positive health education by literature, speakers and personal letters from the chairman and the district members.

"We are especially anxious to interest adults in yearly health examinations and to establish a clinic for this at the state fair."

FARM BUREAU

Mrs. Ellsworth Richardson, chairman of the women's committee of the Iowa Farm Bureau Federation read the following paper on "Farm Bureau Activities and the Practicing Physician":

"The Farm Bureau movement represents the progressive spirit of progress in American agriculture today. It has reached its present status through evolution.

"We think back to the time when there was not even a department of agriculture in our government, and no farm organizations. The department of agriculture was created to answer the call of farmers, as the problems of production and marketing demanded the help of research and science. As time went on, problems increased. Agricultural colleges were proposed so that agriculture might have the benefits of science, research and experiment. This proposition was debated in congress. The President of the United States, James Buchanan, declared that this should not be done as it would be folly to ask the government to appropriate funds for this use; it would be class legislation. Abraham Lincoln, however, was the next president, and exerted his influence to pass the measure. He declared our nation must depend upon a sound agriculture—a sound agriculture depends upon science and research. He signed the bill known as the land grant college bill and our agricultural colleges came into being. But farmers can only send a few of their folks to college. There are today only about 20 per cent of our farm boys and girls attending agricultural colleges. The extension program was thus evolved to meet that problem. Farmers in groups were asking the college for speakers on different phases of the farm industry and farm life. This period developed the old short course and institute. But this reached only a small per cent of the farm folks; the need was for a uniform, supervised plan that would enable all our folks to avail themselves of this help.

"Let me say here that many farmers' organizations were developed about this time—some for the promotion of social units, some cooperative endeavors, but many for the buying and handling of their own supplies.

"In 1909 up in New York, a great mass meeting of folks representing all interests, realizing the importance of the agricultural industry, adopted a policy of aggressive agricultural development, by hiring out of a donated fund, an agricultural agent. This man through survey, and cooperation with extension and experimental agencies soon began to improve livestock, production of crops and home conditions. Other counties followed. Then the Smith-Lever Act was passed by Congress granting federal funds to the extent of \$600 to any county to help pay either county agent or home demonstration agent salary. This federal law was met in the several states in many different ways, and the plan, uniform in outline, has resulted in placing agents in

more than 80 per cent of the counties in the United States.

"Iowa started the Farm Bureau movement in 1912. A state law was passed in 1917 that made it mandatory for county supervisors to levy a tax on every one in the county to help maintain the county agent work. This law demanded, however, that a sum of \$1,000 be raised by at least two hundred farmers as organization fees before the county tax money was available. It also demanded that a board of directors from the different units of the county serve without pay in directing a program to improve the agricultural and community life of the county. Every county thus organized a Farm Bureau, some counties hiring both a man and woman agent. The men were, in the main, the officers of these township and county organizations. However, there were no reasons why women should not fill any place, and we have seen, in the last few years, how they have become an active part of the organization.

"In 1917 representatives of the county units met and effected a federation, or State Farm Bureau. The next year the State Farm Bureaus were federated into a National organization.

"A ruling in the Department of Agriculture defines the position of the government thus: The county agent is only partly a government employe, as part of his salary is paid by membership fees. He therefore becomes the link that binds each farm and farm family through cooperation with agricultural colleges and extension forces, to the Department of Agriculture. The county agent also becomes the link that binds each farm family to his state and national units, which are in reality the business organizations of the farmers. The sum of \$1 out of each membership fee is sent to finance the state and national organization.

"The state organization has a membership of the aggregate county membership. Its governing body is a group of directors, one from each county—to meet once a year or at president's call. The executive board acts on all matters during the ensuing year. These directors are elected, one from each congressional district. A committee of women, acting in advisory capacity, one from each congressional district, constitute the State Womens Committee. The chairman is a member of the State Executive Board.

"The smallest unit of the State Farm Bureau is the township unit. There are 1,632 townships in the state. Each township Farm Bureau is a part of the county Farm Bureau. Each township is organized according to a state plan, namely, to have a director and vice director, one of which is a woman; secretary and publicity chairman, either men or women, nine men cooperators, or one for each four square miles, nine women cooperators. Thus twenty-two men and women are the regularly elected folks in these townships to promote better farming methods, better community life, better and more significant home life. It is the ultimate aim of the Farm Bureau

to make better folks; we believe that only so far as the produce of our farms is translated back into higher ethical, moral, hygienic, cultural and spiritual values, have we been successful in the fullest sense.

"In our township unit meetings, regular programs to inspire this vision of farm life, are developing rapidly. About 500 townships have regular monthly meetings. About 700 more have from three to ten meetings each year.

"The women in each township are known as the womens committee of the Farm Bureau. These several township groups of women constitute a county committee and select a chairman, who is duly elected at the annual meeting. The county chairman is a voting director on the county Farm Bureau board of directors.

"Naturally, we in trying to make better farm homes and communities, are interested in health and hygiene. The regular educational work of the Farm Bureau comes from the extension division of our state college. More than a third of our counties each year study nutrition. I feel that we have made a good start, for surely nutrition is a step in the direction of health. But it is only one phase of health, and we want further aid and help. The project of child care and parent education is another project we are studying from the extension division. This project has helped us to see the crying need for community and home hygiene. We are glad to have the assurance that the medical association will help us to carry out such a program.

"Here are a few ways in which I believe you can help us. We want:

First—Reliable, authentic information about,

- a. Serum treatments.
- b. Immunization.
- c. Infectious diseases.
- d. Diets (for reducing, etc.)

2d. We want to know medical standards—some way of protecting our folks against quacks, fads and irresponsible so-called healers.

3d. We want help in developing health projects or programs that we know are correct and efficient.

"I am sure that many of these things can be worked out. The Farm Bureau is here, organized and wanting cooperation. Your profession is organized and equipped to give this help. Your wish is to serve, we know. It seems a matter of working out a way through speakers, bulletins, training classes, clinics or other ways. Surely there are great promises for the future safety of an efficient rural health program."

The chairman then introduced W. E. Long, M.D., deputy counselor of Cerro Gordo County Medical Society, who made the following observations on Cerro Gordo County Medical Society Health Plans:

THE CERRO GORDO MEDICAL SOCIETY HEALTH PLANS

"The Cerro Gordo County Medical Society always has been, is now, and always will be in favor of sympathetic, progressive, conservative health

plans. I am glad to say I represent one of the good societies of the state. We are not perfect by any means but I believe we have done some things worth while.

"Just two years ago I attended a similar conference here in Des Moines and I remember one of the important things discussed was the idea of publicity in medical affairs, such as writing health notes and articles on preventive medicine. I went home and took up this matter with our county society and after thoroughly discussing the subject the society unanimously voted to put on a year of publicity work. We entered into a contract with our local paper, the Mason City Globe-Gazette, to furnish one editorial a week. These articles were signed by the Cerro Gordo County Medical Society. They were well received by the readers of the paper. We are not running these editorials this year, as a few of the members of the medical society wondered if it were best as we were only one county that was putting over this kind of a program. I, personally, believe these articles should be constantly printed. If they could be generated or edited from some central point, as the Iowa State Medical Society, it might be more effective. These articles should be published in every county in the state at the same time and in the same way.

"Our activities in health lines this year are co-operative efforts with all health activities, such as the pre-school clinics, kindergarden clinics, physical examination for athletic work, in the Y. M. C. A. and Y. W. C. A. We also give service free to the Red Cross during the county fair and at all aviation meets. Once a month one of our physicians gives a health talk to the Parent Teachers Association. We have a contract with the county board of supervisors to take care of the county poor at a two-third rate of regular fee bill. Bills are approved and paid every month. Our work with the board has been quite satisfactory. Any bills that are considered too large are referred back to the county medical society for correction. This is done by a committee of physicians, who go over the bills with the doctor who presented them. But few bills come back for correction.

"Two years ago our county society became interested in having a full time health officer. Dr. Wallace of the State Board of Health was invited to explain the modus operandi of a full time health service. Two weeks later another meeting was called. This meeting was made up of city mayor, secretary of the Chamber of Commerce, members of the board of county supervisors, representatives of the medical society and all health officers of the county. This was a good meeting in that all were sold on the proposition of a full time health officer. At this meeting a committee was appointed to investigate the cost and compare it with the present expenditures for health service in the county. This committee reported favorably at a subsequent meeting, but the county board of supervisors were absent and sent word that they did not care to do anything

further, giving no reason for their action. As this county board of supervisors was again re-elected we could not go on without their help. I personally believe, had we adopted and voted on this plan at our first meeting, it would have carried. We had too many meetings and committee reports and ere everything was brought together for consideration the county board cooled off. It seems to me that if a law were enacted whereby all counties would operate under this plan we would soon get somewhere. I believe the county boards would be for it. The members are usually good business men and do their work satisfactorily, but when it comes to matters dealing with public health they quite often fail as they are not medically trained. A law of this kind would relieve the county board of active supervision and responsibility in health matters.

"After all it is unified effort that will accomplish results. The trustees of the State Medical Society in their wisdom elected a competent man in the person of Mr. Vernon Blank, who seems to have the unusual ability of coordinating health activities, not only within the Society but outside as well. Such efforts should have been promulgated at least five years ago.

President McManus suggested the idea of county societies visiting each other. This is a very good plan. Floyd County Medical Society visited Cerro Gordo County Medical Society in November. The members furnished a fine program. Both societies received much benefit from this meeting. A return program will be given by Cerro Gordo County Medical Society in the near future.

"Let all health activities, both inside and outside of the medical society, work together for the common good of all concerned. Let each give some material help.

"A church sent out an announcement of a picnic supper, calling attention to the fact that each person bring something. The Irishman brought his potatoes, the German his sauerkraut, the Norwegian brought fish and the Scotchman brought a toothpick. The toothpick may have its place but I will close by saying 'Let us have more good food'."

COUNTY UNITS: HEALTH, WELFARE AND ADVISORY

The last paper on the morning program was, "County Units: Health, Welfare, and Advisory", by D. C. Steelsmith, M.D., deputy commissioner, State Department of Health, who said:

"Medical practice in Iowa is besieged by many organizations operating under the name of public health, to give, without stint or recompense, their services.

"There are about six unofficial groups in the field that depend upon the medical practitioners for 50 or 75 per cent of their end results. Many times their work is appraised by their superiors according to amount of free service obtained.

"Some of these unofficial bodies are Farm Bureau,

State Welfare Organizations, Red Cross, Iowa Tuberculosis Association, Federated Women's Clubs, Parent Teachers Organizations—all worthy and worth-while and have their duties to perform. All are more or less beneficial to society but must take their orders and arrange their programs from national organizations.

"The extension divisions of our great schools do not stop at educational endeavors but go into the various communities and enter into field activities. These are or have become official or semi-official state health agencies. The State Department of Health endeavors to serve as a 'go-between' and may be classified as an official state agency, endeavoring to do constructive public health work and correlate and coordinate all official and unofficial agencies in the field.

"Public health activities have never been coordinated in Iowa and all is chaos—the condition need not be discussed further. We believe that the medical profession is partly responsible for this condition in that it has been neglectful of the very important job of guiding or advising these numerous activities.

"Medical practice has changed much in the last twenty-five years, as has every other activity. We must adjust ourselves to these changes. Policies must be thought out. Plans must be made to suit the year 1929, not 1900. No procedure will maintain unless the plan or policy is sound.

Advisory Group

"Each county medical society should adopt a plan or policy applicable to present conditions. They must guide and direct all activities that pertain to, or are associated with the practice of medicine. To this end, every county medical society should foster or at least cooperate in the formation of an advisory health council to coordinate local activities. Such a group could of course be more than a mere coordinating council where there is a nurse or social worker. It would be the nucleus of a County Health Unit.

"We have been asked to bring in a short tentative bill that will correlate all health and welfare activities in each county under the supervision of a competent, interested Board of Health and Welfare. We have the pleasure of presenting our report to the Chairman of the Board of Councilors at this time. We have mimeographed copies for each to take with you and study the principles involved.

"In closing I desire to make the following statement: When the Board of Councilors and Legislative Committee prepare and agree upon the measures to be presented to the coming legislature, I feel you will be derelict in your duty to the people of the state and to your profession if you do not have the members of your county society acquaint themselves fully with all measures, and see to it that your representative and your senator are fully acquainted with the reasons why such measures are necessary and are pledged to give their support to these measures before coming to Des Moines.

"I may say that there is evidence of neglect chargeable to us in the past. Let us renew our allegiance and activity and bring order out of chaos and establish ourselves upon the plane where regular medicine belongs."

DISCUSSIONS

Dr. George B. Crow, Burlington, Councilor, First District: A good county health program should coordinate all these health activities. The reply to all of our efforts is, where is the money coming from? Dr. Steelsmith's bill has one defect, in that it provides no means of raising the money. County societies should invite representatives from these different organizations.

Dr. A. E. Conrad, Decorah, Deputy Councilor, Winneshiek County: We have left out the most democratic organization of the whole nation—the Women's Auxiliary of the American Legion. Its welfare department is very anxious to be of service to their county, and these boards should include the welfare department of the auxiliary. Tell them what is necessary and how to do it and they will get the money.

Dr. A. P. Johnson, Sigourney, Deputy Councilor, Keokuk County: Raising the money to get health articles published is our problem. Two papers published every week. An article by myself or someone else whom I selected to write an article. Regarding the indigent sick, they can go to Iowa City much more easily than they could come down to our county seat.

Dr. F. M. Roberts, Knoxville, President, Marion County: We have just had an excellent program in our society. We had our school nurse, who gave us a good paper along the line of her work. Ours is one of the counties in the state having a social worker. This problem is in its infancy, but so far in Marion County it is a success and we are glad to report that we have an excellent social worker there. We have no difficulties. We have a plan whereby we make a contract with the board of supervisors each year to take care of the poor of the county for a definite amount of money. The money is paid to us quarterly by the county and by the end of each year we distribute it among ourselves.

Dr. E. S. Evans, Grinnell, Deputy Councilor, Poweshiek County: I sincerely hope that some arrangement can be made to revise the method of remuneration of the hospital for patients that come from different parts of the state. We should take care of them, and at the same time keep the hospital full and operating without a deficit. We should be big enough to overlook things such as patients going to the university to experts.

Dr. F. P. Winkler, Sibley, Deputy Councilor and Secretary, Osceola County: Only a few counties have up to the present time employed a county social worker. Osceola county undertook that experiment something over a year ago. The board of supervisors employed a good overseer of the poor,

but brought in there without anyone knowing what was happening. The county medical society should become acquainted with this particular work and should cooperate, for without the cooperation of the society it is going to fail as it did in Osceola county. Work was halted in our county before it got started. The county medical society resented the idea, not being acquainted with the duties of the county social worker.

Dr. M. C. Jones, Boone, Deputy Councilor and Secretary, Boone County: It is a very worthy thing to help the children starting into school because if they have any defects they are not going to get an education.

After a few other remarks made briefly by different members of the conference, President McManus adjourned the session for luncheon.

LUNCHEON SESSION

Approximately one hundred county and State Society officials and guests sat down to a 1:30 luncheon in the oak room of the Hotel Fort Des Moines, with president-elect John H. Peck presiding. During the luncheon several varieties of entertainment were introduced which concluded with some excellent singing by the Four Horsemen, male quartet. Dr. Peck then introduced Walter L. Biering, M.D., Des Moines, who ably took the place on the program of John M. Dodson, M.D., Director of the Bureau of Health and Public Instruction, American Medical Association, who was confined to his home by illness. Speaking upon the subject The Physician and Local Health Agencies, Dr. Biering told of the new development in medicine and public health that was marked by the formation of various types of county health units and the active participation of state societies in matters of medical economics.

Through cooperation with official and volunteer agencies the public must be educated so as not only to promote a better state of general health, eliminating diphtheria and small-pox, but also to demand the maintenance of high standards of medical practice. Many state societies with full time executives and considerable annual expenditures are carrying out such a program. The Texas state society has an annual budget of fifty thousand dollars, much of which is expended in this field of education and public health: and in addition, the county societies spend large sums in the newspapers and for lectures to preach the gospel of scientific medicine. This resulted in saving Texas from the cults.

New York, Ohio, Wisconsin, Michigan, Illinois and Indiana are all working along the same lines. Iowa is now taking a similar step by employing a full time director and by engaging in such discussions as this today.

The problem of medical education requires attention, for we must endeavor to safeguard our colleges and hospitals and develop ultimate post-graduate training and education for practicing physicians at the same time. It is vital in this connection that there should be adequate protective laws.

Many states now have a basic science law. Connecticut, Wisconsin, Washington, Nebraska and Minnesota have such a law as the basis of their medical practice acts. This law requires a thorough knowledge of the basic science on the part of all practitioners, and seems to offer the right solution.

If we can develop the proper sentiment for public health in the general public; high standards, better law enforcement, and effective legislation will naturally follow.

Following Dr. Bierring's address Mrs. Ellsworth Richardson of the Iowa Farm Bureau Federation delivered her paper scheduled for the morning. Mrs. Richardson had been prevented from reaching Des Moines earlier in the day, but her remarks have been reproduced as part of the morning meeting for logical reasons.

AFTERNOON SESSION

The conference reconvened for the afternoon session at 2:30 o'clock, and President McManus introduced the Chairman of the Legislative Committee, Dr. Thomas A. Burcham, who reported the plans and activities of his committee substantially as follows:

LEGISLATIVE PROGRAM

"The Legislative Committee is anxious to make a full report to this group because you are the men who must see to it that your representatives and senators are fully informed and have the right attitude upon all matters affecting the profession.

Workmen's Compensation

"There are three problems upon which the committee has been active during the summer and fall, and upon two of these we can make a definite report and recommendation. The first is the matter of increasing the maximum amount payable for medical and hospital care of injured persons under the Workmen's Compensation Acts. As the law now stands the maximum combined hospital, medical and surgical fee allowed for care of the workmen under our employers' liability act is \$200. The majority of workmen's compensation cases are for much smaller amounts, but in case of major injuries this low limit works a hardship on all concerned, as the Industrial Commissioner has to prorate the bills wherever the total exceeds the low limit of \$200.

"Other states have more liberal provisions than Iowa. In nineteen states statutory medical and surgical service is without limitations as to the total amount. In ten of these the time of treatment is also unlimited. Of the above mentioned states, five are on the Atlantic seaboard, five are western states and nine are in the Mississippi Valley area. Of the upper Mississippi states, seven have no limits, two have higher limits than Iowa, one other has the same as Iowa, and only one can be listed as lower. Even this last one is not necessarily lower than Iowa, for in South Dakota the limit is \$150, whereas here it is \$100 (with a possible \$100 additional). In

West Virginia the limit is \$800; in Maryland, Montana and Utah it is \$500; in Wyoming, \$300, and in Oregon, Louisiana and Missouri it is \$250.

"The Industrial Commissioner, Hon. A. B. Funk, has given his approval to, and this committee heartily recommends, a proposal to liberalize the Iowa law so that there will be no limit for hospitalization and the limit for medical and surgical services be \$200. This will be a great improvement over the present situation, as it will put Iowa among the most liberal states instead of at the bottom of the list as at present. This committee would urge your active support of this measure.

Law Enforcement

"The second recommendation regards law enforcement, and Dr. Albert will refer to it more fully in his paper on 'The Legislative Program of the State Department of Health'. I need only say here that the officers of the State Society and the state office are continually receiving from component societies and member physicians requests for aid in the enforcement of our medical practice acts. These laws, however, can be properly enforced only through a special division working from the attorney general's office under the direction of the State Department of Health. Dr. Albert is asking appropriations for such a division and if we can help in securing this a great service will be rendered to organized medicine in our state. Your active support is urged.

University Hospital

"The third problem has taken a great deal of time; for your committee, inspired by the splendid spirit of our friend, Dean Houghton, has enthusiastically tackled the job of developing a completely cooperative program for the University Hospital.

"Preceded by two informal but extended conferences between Dean Houghton and the Legislative Committee, there was held in Iowa City on September 15th an all-evening session of the Legislative Committee, officers of the State Society, President Jessup, Dean Houghton and department heads of the University Medical College. Not only was this meeting marked by a fine spirit of friendliness and a desire to cooperate, but it was evident that between the teaching faculty of the medical college and the State Society, there was little or no difference of viewpoint. To Dean Houghton was delegated the task of further consideration with the Legislative Committee of the two problems which remained unsettled after this conference: First, the extent to which the new University Hospital should be used for private patients; second, methods of meeting the demands of those who supported proposed changes in the Perkins, Haskell-Klaus Laws without curtailing the supply of clinical material at the University Hospital.

Program Proposed

"After a meeting of the Legislative Committee, which Dean Houghton attended, the following pro-

posed changes in the Perkins, Haskell-Klaus Laws were agreed upon:

1. Commitment to be limited to a two year period.

2. Two reputable physicians must sign the commitment papers, at least one of whom is in good standing with the local county medical society. Fee to be \$2.50 each.

Physicians should make a statement as to whether or not, in their opinion, the patient can be benefited by care in the University Hospital, and as to the patient's financial condition.

Patient should make affidavit as to any property, real or personal, he may possess.

The University will render a confidential report to each county society secretary of all patients, pay and indigent, monthly, showing diagnosis, when, how and by whom committed.

3. The cost of transportation and hospitalization to become a debt against the individual and a lien against any property he may have, or may acquire, for a period of ten years.

4. The actual cost of hospitalization should be paid by the state, and the state in turn should charge 50 per cent back against the general fund of the county sending the patient, the other 50 per cent to be charged against the general fund of the state.

The transportation charges for both patients and escorts shall be charged against the general fund of the state.

5. No pay patients, neither children nor adults, shall be taken into the State University Hospital if they would interfere in any way with the care of the indigent patients committed.

6. The number of private pay patients taken into the University Hospital shall at no time be more than 5 per cent of the total beds available.

This may not be included in the law, but is to be effected by a ruling of the Board of Control.

7. The Hospital should be operated on an actual cost basis. A careful record of receipts and expenditures of the institution should be kept and a monthly report rendered by the Hospital. The state should pay, by voucher, the actual cost of the institution.

Reasons for Changes

The reasons for the proposed changes are:

1. Under the present law the commitment is good for an indefinite period of time. There are cases on record in which the financial condition of the patient or their family has changed materially, but they are still able to receive treatment and hospitalization at the University Hospital on the old commitment.

2. Under the present law, one physician signs the papers with a fee of \$5. It is proposed that two physicians sign the papers, at least one of whom is in good standing with the county medical society. This is suggested for the reason that the doctors are complaining that patients are railroaded to the University Hospital by some active person in the county without the doctors having any knowledge of their

going, or for what reason, the commitment being signed by a doctor not in good standing with the profession. The two doctors would also act as a committee and give an opinion as to whether the patient can be benefited by treatment in the University Hospital.

3. This needs no further explanation, except to state that in the case of insane patients the cost of their care in an institution becomes a lien against their property for a period of ten years.

4. The bill which proposed to change the Perkins, Haskell-Klaus Laws and which was introduced during the last session of the legislature, provided for the cost of the care of patients in the University Hospital to be charged back to the county sending the patients. This was for the reason that some of the less populous counties that sent only a few patients to Iowa City were paying an exorbitant fee per patient, in comparison with the fee per patient for counties having a larger population and sending a greater number of patients to the University Hospital.

The change as suggested in paragraph 4 would charge 50 per cent of the cost back to the county and would at least tend to equalize the cost to the different counties.

The transportation charges for both patients and escorts to be charged against the general fund of the state and thus each county, regardless of the distance from Iowa City, would pay the same price per diem for the patients committed.

5. The University authorities, the Board of Education, and the Iowa State Medical Society fully agree that the University Hospital at Iowa City is for the purpose of caring for the indigent people of the state and to furnish clinical material for teaching purposes and it is the desire of everyone that each and every indigent patient be cared for without delay.

6. At the present time, the Board of Education has now made an arbitrary ruling that only 5 per cent of the total beds available in the hospital can be used for private pay patients. This provision will take care of the citizens of the State of Iowa who care to become patients at the University Hospital and will not interfere in any way with the patients committed under the Perkins, Haskell-Klaus Laws.

7. This is self-explanatory.

"The above changes were submitted to a sub-committee of the Board of Education by the Legislative Committee. The sub-committee and the Legislative Committee worked at these problems over a period of several weeks during which time the late Hon. E. L. Hogue, budget director for the State of Iowa, conferred with these committees.

Board of Education Decision

"These proposed changes were submitted to a full meeting of the Board of Education by the sub-committee and the following resolutions were received from the secretary of the Board of Education:

Whereas, the State Board of Education, meeting at Iowa City on December 11, 1928, received a report from its special committee of a conference with a committee of the Iowa State Medical Society duly appointed for the purpose, which meeting was held in Des Moines on the evening of November 8, 1928; and

Whereas, the State Board of Education considered in detail the report of its special committee, discussing each and all of the proposals made to its special committee by the committee of the Iowa State Medical Society; and

Whereas, the Iowa State Board of Education believes that several proposals of the Iowa State Medical Society can with advantage be adopted and applied for a period of at least two years before any attempt is made to write these proposals into the present laws of the State of Iowa; and

Whereas, the proposals of the Society, with the exception hereinafter noted are deemed to be sound and reasonable and should be adopted as administrative procedures for the University Hospitals; and

Whereas, the proposal of the Society for a change of the basis of reimbursement for indigent patients, whereby the costs should be borne in part by the counties committing them and in part by the state concerns an economic problem solely on which the Board refrains from formal action, as being outside of its jurisdiction but which the Board feels would cause confusion and might jeopardize the even flow of patients to the University Hospitals.

Now, Therefore, Be It Resolved by the Iowa State Board of Education, in regular meeting assembled, that the following matters and things be, and they are, hereby adopted as administrative rules of procedure for the operation of the University Hospitals at the University of Iowa:

1. That commitments of indigent patients to the University Hospitals shall expire two years after date of original commitment.

2. The State Board of Education believes that it would be to the best interest of the people of the state and in the interests of administration of the hospital if two reputable physicians would join in signing the application to the court for the commitment of an indigent patient rather than one, as now required by law.

3. That the State Board of Education will hereafter continue its present policy of demanding and requiring an itemized property statement made under oath by the indigent patient before admission to the hospital.

4. That the Board of Education, in operating the University Hospitals in the joint interest of a state-wide medical service, as now provided by the statutes and laws of the State of Iowa familiarly known as the Haskell-Klaus and Perkins Acts, does not contemplate the creation of an agency which will compete with practicing physicians, nor the expansion of its private services beyond those already provided, which are now approximately 5 per cent of

the bed capacity of the University Hospitals. This policy is contingent upon a supply of indigent patients adequate for the teaching of medical students committed to the care of the Board, and adequate financing of the same.

Be It Further Resolved by the State Board of Education that this resolution be spread upon the minutes of the Board of Education as a permanent policy of administrative procedure for the operation of the University Hospitals at Iowa City, and that a copy of the same be forwarded to the officers of the Iowa State Medical Society.

"After a careful analysis of the resolutions from the Board of Education, one is convinced that the Board does not feel inclined to use its influence in any way to have the present Perkins, Haskell-Klaus Laws changed in any manner. Although they agree that certain changes should be made they are unwilling to consent to such changes being made in the laws but desire that the changes be a policy of the Board."

STATE HEALTH DEPARTMENT LEGISLATIVE NEEDS

Dr. Henry Albert, State Health Commissioner, spoke upon the Legislative Needs of the State Department of Health, and covered the following points:

"The State Department of Health is in very great need of being strengthened so as to better serve through 'public health', administer 'Medical Practice Act' (together with Board of Medical Examiners), and advise regarding legislation.

"From the standpoint of legislation, as it pertains to the practice of the healing arts, there are three groups especially concerned, as follows: 1. College of Medicine of the University. 2. The State Board of Medical Examiners and the State Department of Health. 3. Practicing physicians. The college of medicine is not in a position to take very active part in legislation because of the danger of jeopardizing the appropriations for the many other divisions of the University. The medical profession can, and should, take an active part, but their motives will always be questioned by some of the legislators.

"The State Department of Health, representing as it does the public, should be in a position to furnish sound advice on any measure pertaining to the activities represented by its department. What is needed is both better general support and provisions for at least three definite divisions of work.

"General Support: At present the Iowa State Department of Health is relatively the most inadequately supported State Health Department in the United States. The Iowa department receives for health work an annual per capita appropriation of only two and one-half cents whereas the average for the country is almost nine cents.

"Even if we add such portion of appropriations given to other departments for public health or supposedly public health work, as is serviceable through

cooperation or coordination of effort for strictly public health purposes, the appropriation for state public health work in Iowa will still be only about one-half that of the average of the entire country. The appropriation for the carrying out provisions of the Medical Practice Act amounts to only one-fifth of one cent per capita, annually. This is also, we believe, the smallest appropriation received by a similar department of any state in the Union. The December, 1928, number of the Journal of the Iowa State Medical Society presents in chart form the relative appropriation given to the State Departments of Health in this country.

Special new divisions needed:

"1. **Inspection Division** to secure evidence of violations of the Medical Practice Act preliminary to law enforcement. This subject is discussed in detail in a special article found in the December, 1928 number of the Journal of the Iowa State Medical Society. It is probable that no inspection service will be provided for in the budget. If it comes, it must come through a special bill. Even if it is provided for by a special measure, the assistance that will be made available will be so limited that we must still depend for most of our law enforcement on educational procedures. It is not possible to develop a state department of health on the basis of prosecution. It is not even possible to build an effective law enforcement division on such basis.

"2. **Communicable Disease Division:** The department is in great need of having a definite division to deal with the question of communicable diseases and provision made for a field man or epidemiologist to assist the medical profession in the control of communicable diseases.

"3. **Child Hygiene Division:** This represents the most constructive work of a health department. Properly conducted, responsive to the wishes of the medical profession and with a program that meets the full approval of both state and local medical societies—it should materially improve the relations of family physician to his patients.

"It is the assistance of a division of child hygiene which has been largely responsible for the rapid development during recent years, of the State Department of Health of practically every state in the Union. It is the absence of such a division that has largely kept the Iowa State Department of Health in a stationary position.

"You have but one official state body charged with these various correlated functions so important in the interests of the medical profession and for the welfare of the people. That is the State Department of Health. For the good of both the medical profession and the public, between whom there is no conflict of interest, the State Department of Health should be strengthened so that it may be able to render efficient service.

"We hope that this legislative program will not only continue to meet with your approval, but that you will take such active part in its promotion as to

relieve the State Department of Health very largely of the necessity of providing for its development and support. If we must spend most of the strength that we have in providing for our support, there will be little left for working for such constructive measures as should be placed on the statute books."

DISCUSSION

Dr. J. C. Albright, Iowa City, Deputy Councilor and Secretary, Johnson County: The question we have before us at the present time is the immediate future of the University College of Medicine. Changes should be made pointing toward the county carrying part of the cost of their own indigent sick.

Dr. E. S. Evans, Grinnell, Deputy Councilor, Poweshiek County: Modifications agreed upon seem to me very fair and all points very well taken. Practically all want the law to stay the way it is.

Dr. S. T. Gray, Albia, Councilor Sixth District: The State Medical Society, State University and State Board of Education ought to operate as a unit. If they do not do that, the people will come in and put over whatever legislative they want.

Dr. Thomas A. Burcham: The Legislative Committee can do nothing unless it has the support of the doctors out over the state. The fifty-fifty plan in New York State is very satisfactory. We must try to get counties to send larger numbers of patients and the state to pay for operating the university hospital so there will be no deficits as at present. We are trying to get together for if we and the Board of Education have unity we will have no trouble in passing bills. It is a fine feeling to have confidence that the Board of Education is with us in this matter.

Dr. W. R. Broek, Sheldon, Deputy Councilor, O'Brien County: Mr. President—I have the following recommendation to present:

The section in the Iowa Code relative to what constitutes practicing medicine is so short and abbreviated that it seems strange that a revision or an amendment has not been made during the long years passed.

In northwest Iowa there are a number of persons actually practicing medicine who are hiding behind a too charitable interpretation of the patent medicine camouflage and because of this charitable interpretation of patented medicine rights the county attorney refuses to prosecute, knowing he will be defeated in court. Persons in northwest Iowa selling mineral herbs at \$50 per treatment are becoming a nuisance. In one instance they went to a hospital, took a patient from a licensed physician, conveyed her to the home of the mineral herb agent and sold a treatment for \$50. An Indian at Sanborn, O'Brien county, calls upon the sick, makes a diagnosis and sells patent medicine and has as large a practice in that vicinity as the one licensed physician at that place. Other agents in northwest Iowa are soliciting all goitre cases they can hear of and selling them a treatment for \$50, said treatment to be delivered by a quack concern at Mason City.

I propose that this sort of fake shall cease, if the county medical society and the State Medical Society will wake up and do things. Therefore I offer the following code section to become a state law:

"No medicine, patented, proprietary or other kind to be used for human sickness or disease shall be sold or given away on the streets, or in the homes, or peddled in any fashion in the country; nor shall any agent, sales agent, or solicitor solicit or enter into agreement or contract to treat any form of human disease, whether this treatment is to be delivered by himself or by any other party, company, clinic, hospital or organization. Anyone violating this section shall be guilty of a misdemeanor. The preceding section shall not be construed to include traveling salesmen who solicit and sell to licensed physicians, drug stores, chemical and biological companies and to hospitals and sanitariums."

I move you, Mr. Chairman, that this proposed bit of legislation be adopted by this convention and turned over to the proper committee to present in legal form to be enacted into law by the Iowa legislature at this coming session.

Dr. Albert: I see no objection to passing such a law. We should do away entirely with itinerant physicians. We must have some sort of definition of itinerant physicians. If the State Department of Health, the Medical Society and Board of Education all work together, there will be no danger from such groups.

Other discussion and comment than that here recorded, took place during the afternoon meeting which lasted until 5:15. While space limitations prevent further detailed report, it is noteworthy that the entire proceedings were followed with interest and the discussions participated in freely. In adjourning the conference, President McManus remarked that definite results in health work and legislative activities were forecast by this interest and participation.

MEMBERSHIP CAMPAIGN A SUCCESS

It is gratifying to announce that the Membership Invitation Week instituted in November by the president and the Council of the State Society has already resulted in seventeen counties attaining 100 per cent membership. These honor counties are: Buchanan county, third district; Howard county, fourth district; Grundy county, fifth district; Jones county, fifth district; Marshall county, fifth district; Monroe county, sixth district; Adams county, eighth district; Union county, eighth district; Adair county, ninth district; Audubon county, ninth district; Boone county, tenth district; Palo Alto county, tenth district; Winnebago county, tenth district; Dickinson county, eleventh district; Ida county, eleventh district; Osceola county, eleventh district.

Eleven other counties have reported over 90 per cent membership, with prospects of finishing the

job. Notable among these is Scott county, which is the fifth largest component society in the state. Dr. C. C. Jones, deputy councilor of Polk county reports that the largest society in the state expects to attain an equally high percentage.

Final figures as to the increase in new members will not be available until the 1929 memberships are remitted by the various secretaries, because in most cases the new memberships are coming in with the regular 1929 reports. The secretary of the State Society urges that these reports and remittances be made at the earliest possible moment.

The value of increased membership and greater solidarity is already being evidenced in many quarters; and the Council appeals to every component society, officer, and member to continue this work until every eligible physician in Iowa is enrolled in the State Society.

SOCIETY PROCEEDINGS

Iowa Clinical Medical Society Meets

Saturday, December 1, the Iowa Clinical Medical Society met at St. Luke's Hospital in Cedar Rapids at 9 o'clock, with physicians from every part of the state in attendance.

The following program was presented by Cedar Rapids physicians: Enlarged Thymus, Milk Anemia, Morgan Foster, M.D.; Hodgkin's Disease, Typhoid Treated with Sodium Cacodylate, B. L. Knight, M.D.; Pernicious Anemia, H. L. Van Winkle, M.D.; Agranulocytic Angina, Chronic Suppuration in Mediastinal Glands, Mitral Stenosis with Unusual Complications, Multiple Postpneumonic Abscesses, B. F. Wolverton, M.D.; Paraplegia, Polycythemia Vera, F. G. Murray, M.D.; Chronic Dysentery, Shiga, H. R. Hess, M.D.; Pediatric Cases, L. M. Downing, M.D.; Pathological Specimens—Pulmonary Embolus, F. W. Mulsow, M.D.

Four-County Medical Association Meets

The Four-County Medical Association consisting of Buena Vista, Plymouth, Cherokee and Ida counties met at the Hotel Lucas in Cherokee Thursday, November 22. After a six o'clock dinner the program was presented which consisted of papers by J. H. O'Donoghue, M.D., of Storm Lake, Wendell Downing, M.D., LeMars, and P. R. Cleaves, M.D., of Cherokee. The election of officers resulted in the selection of Dr. W. T. Shepard, LeMars, president; Dr. E. F. Smith, Storm Lake, vice-president; and Dr. M. J. Joynt, LeMars, secretary-treasurer.

Polk County Presents Upper Des Moines Society Program

Tuesday, December 4, members of the Polk County Medical Society presented the regular winter program of the Upper Des Moines Medical Society in Estherville. A scientific session began at two o'clock with Dr. J. B. Knipe of Armstrong pre-

siding over the following program: Neuropsychiatric Complications of Common Diseases, Frank Ely, M.D.; Dermatological Clinic, H. C. Willett, M.D.; Some Common External Eye Conditions, Ralph Parker, M.D.; The Feeding of Infants (with slides), L. F. Hill, M.D.

Immediately following, the annual business meeting was held and the officers elected for the coming year were: Dr. C. O. Epley, Spirit Lake, president; Dr. M. T. Morton, Estherville, vice-president; and Dr. George H. Keeney, Mallard, secretary-treasurer. Officers for the past year were: Dr. E. E. Munger, Spencer, president; Dr. J. B. Knipe, Armstrong, vice-president; and Dr. George H. Keeney, Mallard, secretary-treasurer. The committee on local arrangements consisted of Drs. M. T. Morton and O. H. Miller of Estherville.

Following a seven o'clock banquet, Chairman of the Council, Channing G. Smith, M.D., and Vernon D. Blank, managing director, spoke upon the work of the State Society; and Henry Albert, M.D., State Commissioner of Health, spoke upon The State Board of Health and the Profession.

Boone County Annual Meeting

"Come and Get It" in place of "Soups On" brought the men of the Boone County Medical Society together for their December meeting, which was held at Dr. L. A. Bassett's office in Boone on December 27. After a dinner served at six the members and their invited guests enjoyed a very pleasant and profitable meeting and were able to present some of the problems of the society to State Senator Doran, Representative Hollingsworth, and county attorney Donald Boone. A report of the meeting of county secretaries held in Des Moines was given, and was followed by a general discussion which was a means of getting the viewpoint of both the doctors and the guests present.

Following this was the election of officers, in which it was moved that the rules be suspended and the present officers be re-elected for the ensuing year. The society was indebted to Miss Cordts and the nurses at Eleanor Moore County Hospital and also to Miss Euphemia Steele for some very good candy. A committee of three, consisting of Drs. Cruikshank, Deering, and Grove were appointed to draft suggested rules as to the admission of patients to state hospitals, and also to draw up resolutions to the Legislative Committee of the State Society.

Mark C. Jones, M.D., Secretary.

Buchanan County Annual Meeting

A meeting of the Buchanan County Medical Society was held at the State Hospital December 12, 1928, with Dean Houghton as speaker. President McManus was present and other visiting physicians were from Waterloo and Delaware county.

C. W. Tidball, Secretary.

Calhoun County Annual Meeting

The Calhoun County Medical Society held its annual meeting Thursday, December 20 at the Hotel Brower in Rockwell City. Following a six-thirty dinner, Dr. J. N. Hoit of Rockwell City presented a paper on Intercellular Glands, after which election of officers for 1929 was held with the following results: W. C. Kennedy, Somers, president; Charles Farlow, Farnhamville, vice-president; P. W. Van Metre, Rockwell City, secretary-treasurer; D. J. Townsend, Lohrville, delegate and W. C. Kennedy, Somers, alternate. A. C. Norton and J. M. Cooper of Rockwell City were elected censors.

Cerro Gordo County Annual Meeting

The annual election of officers placed Dr. B. F. Weston of Mason City, Iowa, president; Dr. E. L. Wurtzer, Clear Lake, Iowa, vice-president, and Dr. T. E. Davidson, Mason City, Iowa, secretary and treasurer. Dr. E. L. Wurtzer was chosen delegate to the Iowa State Medical Society and Dr. G. M. Crabb alternate. There was a short program consisting of a paper on Mortality Factors in Acute Appendicitis, given by Dr. T. E. Davidson, and discussed by Dr. Wurtzer and Dr. Crabb and closed by Dr. Davidson.

Clinton County

The Clinton County Medical Society met Thursday evening, December 6, at the Lafayette Hotel in Clinton for a six-thirty dinner followed by a program: Diabetes, Robert W. Keeton, M.D., Chicago, Illinois; and Chronic Lung Lesions of a Non-Tubercular Type, Anfin Egdahl, M.D., Rockford, Illinois.

Decatur County

Friday evening, November 23, the Decatur County Medical Society met in the library parlors at Leon with an attendance of forty physicians from Decatur and surrounding counties. Dr. E. T. Edgerly of Ottumwa and Drs. E. J. Harnagel and W. E. Sanders of Des Moines presented the program, after which refreshments were served.

Decatur County Annual Meeting

At the Decatur County Annual Business Meeting, the following officers were elected for the ensuing year: George D. Tallman, Van Wert, president; C. E. Sixbury, Lamoni, vice-president; J. S. Coontz, Garden Grove, secretary and treasurer. G. P. Reed, Davis City, was elected delegate, B. L. Eiker, Leon, alternate and M. L. Rogers, Leon, censor.

J. C. Coontz, M.D., Secretary.

Des Moines County Annual Meeting

Tuesday, December 11, the annual meeting of the Des Moines County Medical Society was held at the Hotel Burlington in Burlington. The following officers were elected: Dr. A. B. George, president; Dr. Carl Lohmann, vice-president; Dr. George

Dixon, secretary; and Dr. A. C. Moerke, censor, all of Burlington. Drs. E. E. Kirkendall and B. L. Ditto were elected to membership.

Greene County Clinic and Annual Meeting

The Greene County Medical Society held a Chest Clinic in Jefferson Friday, December 7, and in the evening held the annual election of officers following a dinner at the Hotel Lincoln. Merrill M. Myers, M.D., Des Moines, spoke upon Cardiac Irregularities, and a motion picture, Being Examined, was shown. The officers elected were: Dr. G. W. Kester, Grand Junction, president; Dr. I. S. Buzard, Jefferson, vice-president; and Dr. Richard Lucke, Jefferson, secretary and treasurer.

Grundy County Annual Meeting

The annual meeting of the Grundy County Medical Society was held Tuesday, December 4, and the following officers were elected: Dr. R. M. Cullison of Dike, president; Dr. G. A. Biebesheimer of Reinbeck, vice-president; Dr. Henry L. Mol of Grundy Center, secretary. Dr. R. T. Spain of Conrad was elected delegate and Dr. W. O. McDowell of Grundy Center alternate.

Hardin County Annual Meeting

The annual meeting of the Hardin County Medical Society was held in Bateson Hall, Eldora, Thursday, November 29. After a dinner held at the Winchester Hotel, A. M. Snell, M.D., Mayo Clinic, Rochester, presented a paper, Glands of Internal Secretion, illustrated by slides. The following officers were elected: Dr. R. E. Gray, Eldora, president; Dr. Harold Mangum, Ackley, vice-president; Dr. C. M. Wray, Iowa Falls, treasurer; and Dr. W. E. Marsh, Eldora, secretary. This society has a contract with the county supervisor to care for the indigent sick for a fixed annual sum, with the result that the treasurer reported approximately \$7,000 in the society treasury.

Henry County Annual Meeting

The Henry County Medical Society met for its annual meeting Wednesday, December 19, at the Harlan Hotel in Mt. Pleasant. After the banquet a short business meeting was held during which plans were made to conduct a heart and lung clinic. It was decided that the society should hold a special meeting in February in order to give the subject of cancer a thorough study. The following officers were elected to serve during 1929: G. M. Van Ausdall, M.D., New London, president; S. W. Huston, M.D., Mt. Pleasant, vice-president; J. W. Laird, M.D., Mt. Pleasant, secretary-treasurer.

Iowa County Annual Meeting

The annual meeting of the Iowa County Medical Society was held in the library at Marengo, Tuesday, November 27. The following officers were

elected: Dr. E. L. Hollis of Marengo, president; Dr. Lawrence Miller of North English, vice-president; Dr. I. J. Sinn of Williamsburg, secretary-treasurer. W. F. Boiler, Iowa City, presented a paper, Headaches Associated with Inflammation of Nerves; and case reports were made by H. G. Moershel, M.D., Homestead and John Schmitke, M.D., Augustine.

Jackson County Annual Meeting

The annual meeting of the Jackson County Medical Society was held in the First National Bank building at Maquoketa, Wednesday, December 5, at four o'clock and the following officers were elected: Dr. J. C. Dennison, Bellevue, president; and Dr. William Lowder, Maquoketa, secretary. After a chicken dinner the scientific program was presented: Indigestion in Childhood, J. O. Ristine, M.D., Maquoketa; The Tonsil and Adenoid Problem, E. P. Weih, M.D., Clinton; Ectopic Pregnancy, H. J. Heu-sinkveld, M.D., Clinton; Retroversion of the Uterus, Norman F. Miller, M.D., Iowa City.

Johnson County Annual Meeting

The Johnson County Medical Society held its final meeting of 1928, on December 5th, at the New American Legion Community Building. Ninety-one members and guests were present.

The meeting was the closing one of a very successful year. Ten meetings have been held with an average attendance of sixty-one. This average, in proportion to the number of members belonging, ninety in all of whom eight are non-residents and four are residents outside the county within the state, is very satisfactory. The spirit and enthusiasm of the society are the very best. The cooperation of the men in actual practice and the men in teaching positions in the university is excellent.

The scientific program at the December meeting was: F. J. Rohner, M.D., Case Report—Hypertension Combined with an Intracranial Lesion, Relieved by Operation. This case was discussed by Anatole Kolodny, M.D. A. W. Bennett, M.D., Case Report—Massive Collapse of the Lung Following Operation for a Gangrenous Appendix. This case was reported by Drs. H. L. Beye, Mark L. Floyd, F. J. Rohner, George Hansmann, F. L. Love, and C. W. Baldrige. A. W. Bennett, M.D., A Second Case Report—One of Fragilitas Ossium.

A business meeting followed the scientific program. Officers elected for the year 1929 were: Dr. Norman F. Miller, president; Dr. Mark L. Floyd, vice-president; Dr. George C. Albright, secretary-treasurer; Dr. A. W. Bennett, delegate and Dr. C. W. Baldrige alternate.

George C. Albright, Secretary.

Keokuk County Annual Meeting

At the annual meeting of the Keokuk County Medical Society held at Sigourney on November 27, 1928, officers were elected as follows: President, F. D. Walk, M.D., South English; vice-president,

Cora Negus, M.D., Keswick; secretary-treasurer, Edward B. Hoeven, M.D., Sigourney; delegate, A. P. Johnson, M.D., Sigourney; alternate, John Maxwell, M.D., What Cheer. The board of censors was elected also; Rex Henry M.D., Hedrick; Dell Grathaus, M.D., Delta, and J. A. Dulin, M.D., Sigourney.

Linn County

The December meeting of the Linn County Medical Society was held at the Chamber of Commerce at eight o'clock, Thursday, December 13 and the speaker of the evening was Dr. Sigfried Mauer, Chicago University, whose subject was Foreign Proteins. Following the scientific session, a buffet luncheon was served, the hosts being Drs. W. Ruml, M. J. Foster, David Beardsley, H. J. Jones.

Marion County Fifty-Sixth Annual Meeting

Marion County Medical Society had its fifty-sixth annual meeting in the court house at Knoxville, Wednesday, December 12. F. M. Roberts, M.D., Knoxville, delivered his president's address upon the subject, Physicians of Marion County, which contained much interesting historical material since this is one of the older county societies in the state. The rest of the program was as follows: Health Education in the Public Schools, Miss Elizabeth Wyss, school nurse, Knoxville; The Medical Care of the Sick Poor, Miss Elizabeth Graham, Marion county social worker, Knoxville; and Some Legal Interpretations of the Poor Laws, Harry E. deReus, county attorney, Knoxville. The election of officers resulted in Dr. Carl Aschenbrenner, Pella, being made president, and Dr. W. S. Chester, Knoxville, vice-president. Dr. C. S. Cornell was re-elected secretary-treasurer.

Dr. Sisson, surgeon-in-charge of the Veterans' Hospital, and his staff, were present as guests, and Dr. Sisson gave a short talk. The next meeting of the society is to be held in the Veterans' Hospital with the hospital staff as hosts.

Mills County Annual Meeting

The annual meeting of Mills County Society was held at Glenwood, December 6. Officers elected to serve the society during 1929 are as follows: President, T. B. Lacey, M.D., of Glenwood; vice-president, C. H. DeWitt, M.D., of Glenwood; secretary-treasurer, J. A. Edwards, M.D., of Glenwood. I. U. Parson, M.D., of Malvern and J. G. McCue, M.D., of Silver City were elected as delegates to the state convention.

Monroe County

The Monroe County Medical Society met Friday evening, December 7, at the office of Dr. C. N. Hyatt in Albia to consider methods of rendering medical service to the county's indigent sick. As a result of the discussion a committee was appointed to consider the proposal of the county supervisors and the matter of incorporating the society.

Muscatine County Annual Meeting

The Muscatine County Medical Society had a meeting December 21 electing officers for 1929 as follows: President, A. L. Bryan, M.D., Muscatine; vice-president, L. A. Royal, M.D., West Liberty; secretary-treasurer, A. J. Cone, M.D., Muscatine; delegate, W. H. Johnston, M.D., Muscatine; alternate, L. H. Howe, M.D., Muscatine; censors, W. H. Johnston, M.D., T. I. Wigim, M.D., A. B. Clapp, M.D., all of Muscatine. County attorney-elect, H. E. Wilson, reviewed the medical practice act and also the rights and privileges of osteopaths, chiropractors, and irregular practitioners.

A. J. Cone, Secretary.

Polk County

The Polk County Medical Society met for its regular monthly meeting at the Iowa Lutheran Hospital on November 27. The meeting was called to order by the president, Dr. Ralph H. Parker, and the following scientific program was presented: Case Report, Granville Ryan, M.D.; Eye Injuries and Their Treatment, C. L. Chambers, M.D.; Treatment of Varicose Veins by the Injection Method, A. P. Stoner, M.D.; Report of a Case of Congenital Anophthalmia, S. F. Ricker, M.D., St. Charles.

Polk County Annual Meeting

The annual meeting of the Polk County Medical Society was held at the Wakonda Country Club in Des Moines Wednesday, December 19. Dr. Ralph H. Parker presiding. After a banquet, during which a male quartet and the Ladies' Chamber of Commerce Glee Club sang, Dr. Parker delivered his presidential address. He then introduced Council Chairman Channing G. Smith, who spoke upon the Iowa State Medical Society. Vernon D. Blank then made a short address on My Duties as Managing Director of the State Society. The annual election of officers resulted in Dr. E. J. Harnagel being chosen as president-elect, with Dr. C. E. Ruth president for 1929. Dr. C. W. Tyler was chosen vice-president and Dr. L. K. Meredith was re-elected secretary and treasurer. The evening was concluded with dancing and bridge.

Pottawattamie County Medical Society Meetings

The Pottawattamie County Medical Society met December 6, and after a one o'clock luncheon was served the following program was presented: Bronchoscopy, S. D. Maiden, M.D., Council Bluffs; Review of Recent Visit to European Medical Centers, A. V. Hennessy, M.D., Council Bluffs; Cancer, Wm. R. Jepson, M.D., Sioux City; Presentation of Cases Exhibiting Blood Dyscrasias, A. A. Johnson, M.D., Council Bluffs. The annual business meeting of the society was held December 13, when the following officers were elected for 1929: Gerald V. Caughlan, M.D., president; David C. Hankey, M.D., vice-president; Gorden N. Best, M.D., secretary-treasurer.

urer: S. D. Maiden, M.D., censor; F. Earl Bellinger, M.D., delegate; and Gerald V. Caughlan, M.D., alternate.

Gorden M. Best, M.D., Secretary.

Scott County

The Scott County Medical Society met Tuesday, December 4, 8 p. m., at the Hotel Blackhawk in Davenport, with Dr. James Dunn giving an illustrated lecture on Posture in Children.

Van Buren County Annual Meeting

The Van Buren County Medical Society met at Keosauqua November 13. There was fair attendance, about 50 per cent being present. The time was taken up on general discussion of topics of interest to those present. The item of securing every eligible physician in the county was debated and plans for so securing them were outlined. Elections of officers resulted in the reelection of the old ones who were: E. E. Sherman, M.D., president; Roscoe Pollock, M.D., vice-president and C. R. Russell, M.D., secretary-treasurer.

Washington County Annual Meeting

The annual meeting of Washington County Medical Society was held Tuesday, December 4, at the county hospital and the following scientific program was presented: Care of the Child at one year of age, W. E. Anderson, M.D., Washington; and Perforating Gastric and Duodenal Ulcer, A. L. Braden, M.D., Wellman. At the business session the following officers were elected: J. L. Fry, M.D., Kalona, president; R. H. Dean, M.D., Washington, vice-president; and W. S. Kyle, M.D., Washington, secretary-treasurer.

Webster County Annual Meeting

The Webster County Medical Society held its annual meeting Tuesday, December 11, at Mercy Hospital in Fort Dodge. F. L. Knowles, M.D., Fort Dodge, read a very interesting paper on Injuries of the Spine, illustrated by slides and motion pictures. The following officers for the coming year were elected: Dr. A. A. Schultz, president; Dr. F. L. Knowles, vice-president; and Dr. John C. Shrader, secretary-treasurer. Dr. J. M. Garret was named delegate to the Iowa State Medical Society and Dr. Roland Stahr, alternate. John C. Shrader, Secretary.

Woodbury County Annual Meeting

The annual meeting of the Woodbury County Medical Society was held at the Jackson Hotel, Friday, December 21. The secretary gave an oral report of the meeting at Des Moines, December 13, of county secretaries and deputy councilors. Election of officers resulted in Dr. James E. Reeder being elected president, Dr. S. E. Sibley, vice-president, and Dr. Roscoe Jepson was re-elected secretary-treasurer. Drs. B. A. Melgaard and R. W.

Perkins were chosen censors. Delegates elected were Drs. Charles Katherman and William Jepson and alternates were Drs. P. B. McLaughlin and S. D. Carney. Dr. Homer A. Smith of Correctionville was elected to membership.

Wright County

The Wright County Medical Society met Tuesday, November 20, in the Legion Hall at Eagle Grove with several noted guests present among whom were, Dr. T. U. McManus of Waterloo, president of the State Society, Dr. Fred A. Agnew of Independence, Councilor of the Third District, Dr. Channing G. Smith, Chairman of the Council, and Mr. Vernon D. Blank, managing director of the State Society. After a six-thirty banquet Dr. McManus spoke on Some Problems Confronting the Medical Profession in Iowa, Dr. Smith addressed the meeting on The Iowa State Medical Society, and Mr. Blank made a short talk on Duties of the Managing Director. L. M. Randall, M.D., obstetrician from the Mayo Clinic, gave an interesting clinical demonstration.

PERSONAL MENTION

Dr. Leonard Ristine, son of Dr. and Mrs. J. O. Ristine of Maquoketa, who has been practicing at Cherokee, was honored by being appointed as medical supervisor of athletics at the University of Iowa.

Dr. W. E. Sanders of Des Moines left for Cuba and a winter trip around the Carribean Sea, the high spot of which is to be the Pan-American Medical Association meeting in Havana, December 29th to January 3rd.

OBITUARIES

Stillman, Wayne L., of Odebolt, died December 8 at age of fifty-five of heart disease; graduated in 1902 at University of Illinois College of Medicine, Chicago. At the time of his death he was a member of the Sac County Medical Society.

Dorr, Edward Elisha, of Des Moines, died December 14 at age of sixty-five of pneumonia; graduated in 1889 at State University of Iowa College of Medicine, Iowa City. At the time of his death he was a member of the Polk County Medical Society.

Bowen, Jesse Clark, of Maquoketa, died December 17 at age of forty-seven; graduated in 1906 at University of Illinois College of Medicine, Chicago. At the time of his death he was a member of the Jackson County Medical Society.

Smith, Chauncey P., of Mason City, died November 19 at age of sixty-four; graduated in 1895 at Rush Medical College, Chicago. At the time of his death he was a member of the Cerro Gordo County Medical Society.

MARRIAGES

Dr. Lester D. Powell, who has been practicing medicine in Des Moines for the past two years, and Miss Fay Ellis were married Wednesday evening in Des Moines. For the past eight years, Miss Ellis had been employed as surgical nurse for Dr. Howard D. Gray. Dr. Powell went to Rochester, Minnesota, after graduating from the State University of Iowa and was on the Mayo Clinic staff for seven years.

BOOK REVIEWS

THE DUODENUM

Medical, Radiologic and Surgical Studies. By Pierre Duval, Jean Charles Roux and Henri Beclere of the Surgical Clinic, Faculty of Medicine, Paris. Translated by E. P. Quain, M.D. St. Louis: The C. V. Mosby Company, 1928.

This is the translation into English of a very comprehensive book compiled by an internist, a surgeon, and a radiologist, who have fused their data and accepted it only after mutual criticism.

It is almost inconceivable that so much (200 pages with illustrations) could be written on such a small segment of the alimentary tract. It covers in considerable detail the duodenum in calculous cholecystitis, periduodenitis, chronic compression of the duodenum, duodeno-jejunoscopy, radiologic signs of ulcer, and intoxication in duodenal retention—some of which subjects are relatively new in duodenal pathology. A unique feature of the book is that these subjects are discussed from the medical, surgical, and radiological aspects, rather than from only one phase. The subject material is amply illustrated by radiographic reprints, diagrams, and case histories.

While a knowledge of radiology is no doubt essential for its complete understanding, there is so much other material in it that it should commend itself to every internist and surgeon as well.

H. H. D.

GONOCOCCAL URETHRITIS IN THE MALE

For Practitioners. By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania. Octavo Volume of 357 Pages, Illustrated. Cloth, \$5.00. Philadelphia and London: W. B. Saunders Company, 1928.

This book, written in the characteristically interesting fashion employed by the author explains clearly how to diagnose, how to treat, and how to prevent the widespread ravages of gonorrhea. As the author contends, this volume is not suitable as a text-book, but rather a manual to be placed in the hands of general practitioners who treat this disease. It is a volume of 350 pages and is divided into two

main parts—the first, takes up in a practical way a consideration of the problems encountered in order to prevent the complications so frequent in the gonorrheal patient. Herein is placed the success of the author in the writing of this book. The second part is devoted exclusively to the presentation of a series of typical case reports. Again, the author is to be commended in their selection as they portray to the practitioner the frequent pitfalls for both the physician and patient in the management and treatment of this disease. It is claimed that a cure can be obtained and the many unhappy results eliminated if the principles of treatment as described are observed. Not all of the author's views are accepted in their entirety but this should not detract from its great value.

W. R. H.

THE HOMEOPATHIC THERAPY OF DISEASES OF THE BRAIN AND NERVES

By George Royal, M.D., Professor of Homeopathic Materia Medica and Therapeutics at the State University of Iowa for 30 Years, Etc. Philadelphia. Boericke and Tafel, 1928. Price \$3.00.

The book is written in a very comprehensive style, setting out just what the busy doctor is hunting for. It is just the book for the doctor who has not the time to go through pages in studying a case. It has a very elaborate index, consisting of four divisions, viz., the disease, the remedy, clinical cases and drug differentiation.

The outstanding characteristic is in the selection of the indicated remedy. Here the author makes a fine differentiation in the symptomatology of the case and then gives a comparison of the remedies that might be indicated in a certain disease.

Another very commendable feature of the author's work is that he has not arranged his remedies alphabetically but has placed them in the order of their importance. The book all the way through shows that it has been written by a man who is giving his actual experience. In citing cases taken from the doctor's own case records, much value is added to the book.

In addition to what I have said about this book I wish to quote the following from an old school doctor, commenting on it. "The book is the best I have seen written by a Homeopath. I wish to congratulate the author upon it. I am not a Homeopath, having graduated from a regular medical college, but have always felt more or less interested in Homeopathy and believed that there must be some good in it or it could not have lived the number of years it has been before the public. So many Homeopaths in their writings just state about one to a dozen remedies indicated and then go on to give a lot of confusing symptoms never giving the potency, the repetition of the dose or anything that helps us of the regular school. It is therefore very refreshing to find in this book clear cut symptoms set forth with a concise statement as to the potency of the

drug, the repetition of the dose and, last but not least, 'auxiliary' treatment." W. L. B.

THE SURGICAL CLINICS OF NORTH AMERICA

Volume VIII, Number 4; 285 Pages, with 91 Illustrations. Price Per Year, Cloth, \$16.00; Paper, \$12.00. W. B. Saunders Co., 1928.

The August number for 1928 is a Philadelphia number and contains important clinics by leading surgeons and at prominent hospitals. The first is a clinic at Jefferson Medical College Hospital on Cancer of the Rectum, by Dr. John Chalmers Da Costa. In an historical relation of the Bonaparte family Dr. Da Costa warns, "never make a diagnosis of cancer simply because another member of the family had the disease, and, equally, never decline to make a diagnosis of cancer because no member of the family had the disease".

Dr. John B. Deaver presents a discussion on the Chronic Gall-Bladder, with his fullness of detail. Another important clinic is by Drs. Charles H. Frazier and W. Blair Mosser, on modern problems in the Surgical Treatment of Toxic Goiter. Recurrent Ulcer of the Stomach is a part of a clinic presented by Dr. Charles F. Nassau at the Jefferson Hospital. The treatment of Chronic Leg Ulcers is an interesting and important clinic by Dr. John Berton Carnett. There is an interesting and practical clinic presented by the Surgical Section of the Graduate School of Medicine of the University of Pennsylvania dealing with the surgical treatment of burns with reference to the use of tannic acid in conditions other than burns.

This number of clinics presents an unusual number of interesting and important clinics of which we have presented a few. We regret that space will not permit a detailed review of them all. D. S. F.

THE MEDICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 11, Number 5, (Tulane University Number, March, 1928.) Octavo of 261 Pages with 35 Illustrations. Per Clinic Year, July, 1927 to May, 1928. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London: W. B. Saunders Company.

The following articles appearing in this, the Tulane University number of the Clinics, will be found most useful to every practitioner:

- Malarial Hemoglobinuria, by Dr. C. C. Bass.
- Health Examination, by Dr. C. C. Bass.
- Syphilis and the Slide Test, by Dr. H. W. Butler.
- Treatment of Paresis by Malaria, Sodaku, and Tryparsamid, by Dr. L. E. Williford.
- Meningococcal Meningitis Treated with Cisternal Puncture, by Dr. D. R. Womack.

Analysis of Eighty-eight Cases of Rheumatic Fever. Comparison with Other Analyses and Discussion, by Dr. A. N. Houston.

The Residuals of Epidemic Encephalitis, by Dr. M. Mallowitz.

PHYSICAL DIAGNOSIS

By Charles Phillips Emerson, A.B., M.D., Professor of Medicine, Indiana University School of Medicine; Author of Clinical Diagnosis. 324 Illustrations. Philadelphia and London: J. B. Lippincott Company.

Dr. Emerson, in the preparation of this volume, has kept conspicuously before him the needs of the medical student in this most essential and frequently inadequately presented branch of medical education. His presentation is clear, his grouping is logical, and the illustrations throughout are well chosen and well produced.

The table of contents is unique, and in itself presented a logical outline for study as is appropriate in a text of this sort. The author has maintained a balance of values in the presentation of the subject which is most useful. After searching the volume one cannot find significant omissions, nor do we feel that any phase of diagnosis is unduly stressed.

As a guide to the medical student in the pursuit of this branch of study, the volume is heartily recommended. To the physician desiring a reference volume of modest proportions and price, this volume can be conscientiously endorsed.

A HANDBOOK OF CLINICAL GYNECOLOGY AND OBSTETRICS

By Rae Thornton La Vake, A.B., M.D., F.A.C.S., Assistant Professor of Obstetrics and Gynecology, University of Minnesota, Etc. Illustrated. St. Louis: The C. V. Mosby Company. 1928.

This volume in size stands midway between a full blown, but often tedious text of obstetrics or gynecology, and the immature and all too frequently inadequate compend or handbook. In the scope of its coverage it is the equal of the best, since its omissions are only of the extremely rare condition or the obsolete method. A very refreshing atmosphere of freedom of thought permeates the volume, and little of the stilted conventionalism of many texts is evident. It stresses the frequent condition and discusses the details of the most useful methods of diagnosis and treatment, with but little consideration for conventional viewpoints except those proven by the author by observation or experience. Throughout the volume by forceful and colorful word use, the author fixes attention on valuable observations and time proven methods.

The book is especially useful, in my opinion, to the advanced student in applied obstetrics and gynecology, or to the general practitioner desiring greater skill in these branches of practice.

THE MEDICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Month.) Volume 11, Number 6, (Mayo Clinic Number, May, 1928). Octavo of 330 Pages with 89 Illustrations and Complete Index to Volume 11. Per Clinic Year, July, 1927 to May, 1928. Paper, \$12; Cloth, \$16 Net. Philadelphia and London: W. B. Saunders Company.

To the physician who, either because of lack of available time, or for economic reasons, fails to personally visit the large medical centers, bound volumes such as this one are a God-send. To the physician in frequent attendance upon these clinics these volumes furnish a source of formal confirmation and ready reference that no system of note-taking can parallel.

In this particular volume from the Mayo Clinic it would only be with highly prejudicial selection that any attempt could be made to list the more useful articles. There is scarcely an article presented that would not only prove most interesting, but most profitable for study to any practitioner of medicine. Surgery, medicine, diagnosis, and the specialties are all represented in the Clinics presented.

CARDIAC ARRHYTHMIAS—CLINICAL FEATURES AND MECHANISM OF THE IRREGULAR HEART

By Irving R. Roth, M.D., Assistant in Medicine; Chief, Children's Cardiac Clinic, Mt. Sinai Hospital, N. Y. Introduction by Emanuel Libman, M.D.; Clinical Professor of Medicine, Columbia University. With 80 Illustrations and Five Tables. Paul B. Hoeber, Inc., 1928. Price \$7.50.

Probably the chief contribution made by Dr. Roth in his book is the series of diagrams which simplify the various types of altered cardiac mechanism. The representations of "Circus movements" to explain auricular fibrillation and auricular flutter are unusually clear. Readers of the book will appreciate the practical help given by the diagrams as well as the artistic form in which they are made. The other illustrations are likewise good.

Part One deals with the Anatomy and Physiology of Heart, under the following heads: 1. The Specific System (Keith-Tawara—His System); 2. Extracardiac Manifestations of the Heart Beat and Methods Employed in Their Study; 3. The Cardiac Nerves; 4. Diagrammatic Representation of the Intrinsic Mechanism and Extracardiac Manifestations of the Heart Beat; 5. Essential Characteristics of the Normal Rhythmic Heart.

Part Two deals with: 1. Sinus Arrhythmias; 2. Auriculo-Ventricular Heart Block; 3. Extrasystolic Arrhythmias (premature beats); 4. Paroxysmal

Tachycardia; 5. Auricular Flutter and Auricular Fibrillation; 6. Combined Arrhythmias.

The style of writing is classical and clear. Consideration is given to clinical signs and symptoms and the application of the graphic records to them. Dr. Roth's work should be given a place in front rank among other books on this subject.

M. M. M.

PREVENTIVE MEDICINE

By Mark F. Boyd, M.D., C.P.H., Member of Regular Field Staff, International Health Division of Rockefeller Foundation; Formerly Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas. Third Edition, Revised. Octavo Volume of 475 Pages with 151 Illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$4.50 Net.

This treatise is written presumably as a text for those students desiring the essentials of this important subject without the detail required of those planning to become health officers. Its arrangement conforms to that usual in this branch of study, and its brevity is supplemented by a pertinent and well-chosen bibliography at the end of each chapter. The many illustrations supplementing the text are for the most part well-chosen and reproduced.

For ready reference the volume should adequately fill a need on the bookshelf of the general practitioner.

AN INTRODUCTION TO EXPERIMENTAL PHARMACOLOGY

By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica at Western Reserve University, Cleveland, and Paul J. Hanzlik, M.D., Professor of Pharmacology at Stanford University, San Francisco, California. Octavo Volume of 321 Pages, Illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$4.25 Net.

This volume is essentially a guide for students in experimental pharmacology. Its scope appears entirely adequate to a proper and thorough understanding of this important subject. Contrary to the usual custom, in the preparation of laboratory guides, this book contains very complete paragraphs dealing with discussions on basic facts necessary for a proper understanding of the steps or results of the experiment proposed. In the closing chapters of the book will be found specific and detailed information regarding the exact procedures to be followed in conducting the demonstrations outlined, generous discussions of anesthetics, directions for the preparation of physiological solutions, and an exhaustive list of drugs and dosages for use with experimental animals.

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FRED GESSNER, M.D., Asst. Physician

A NEW MEDIUM FOR GALL-BLADDER RADIOGRAPHY

Tetraiodophenolphthalein in colloidal suspension is the latest development for visualization of the gall-bladder. The use of this medium was described by Dr. Bernard Fantus in the Journal American Medical Association of July 16, 1927.

As the result of subsequent research, colloidal tetraiodophenolphthalein is now available in a form stable toward the gastric juice and readily absorbable from the intestine. The dose containing grams of dye is given in a glass of water. Experiments covering a long period have shown that tetraiodophenolphthalein administered in this colloidal form, normally gives a distinct cholecystogram within twelve hours. It is claimed that the possibility of non-visualization is reduced to a minimum and that nausea, laxative action, or other discomforts are seldom encountered. In this new colloidal form, the chemical will be known as chole-cysto-col and will be marketed by the Abbott Laboratories, North Chicago, Illinois.

NEW AND NON-OFFICIAL PREPARATIONS

The following have been accepted by the Council on Pharmacy and Chemistry:

Abbott Laboratories:

Capsules Ephedrine Hydrochloride—Abbott, $\frac{3}{8}$ grain.

Armour & Co.:

Concentrated Liver Extract—Armour.

Lederle Antitoxin Laboratories:

Tablets Whole Ovary—Lederle, $2\frac{1}{2}$ grains.

Eli Lilly & Co.:

Antimeningococcic Serum Concentrated—Lilly.

Antistreptococcic Serum, Purified and Concentrated (Lilly).

Mallinckrodt Chemical Works:

Iso-Iodeikon.

Merck & Co., Inc.:

Optochin Base.

Optochin Hydrochloride.

H. K. Mulford Co.:

Mulford's Acidophilus Bacillus Blocks.

Tetanus Antitoxin (Bovine).

Parke, Davis & Co.:

Capsules Ephedrine Sulphate—P. D. & Co., $\frac{3}{8}$ grain.

Capsules Ovarian Substance, Desiccated—P. D. & Co., 5 grains.

E. R. Squibb & Sons:

Tablets Protargentum—Squibb, 4.6 grains.

Tablets Solargentum—Squibb, 4.6 grains.

Swan-Myers Co.:

Syrup Ephedrine Hydrochloride (Double Strength)—Swan-Myers.

Non-proprietary Articles:

Ethylhydrocupreine.

Phentetiothalein Sodium.

Arlington Chemical Co.:

Western Water Hemp Pollen Extract—Arlco.

Spiny Amaranth Pollen Extract—Arlco.

E. Bilhuber, Inc.:

Metrazol

Metrazol Ampoules, 1 c.c.

Metrazol Tablets.

The Gilliland Laboratories, Inc.:

Rabies Vaccine—Gilliland (Semple Method)

H. A. Metz Laboratories, Inc.:

Salyrgan.

Ampules Salyrgan Solution, 1 c.c.

Ampules Salyrgan Solution, 2 c.c.

E. R. Squibb & Sons:

Antipneumococcic Serum, Type I, 50 c.c. gravity container.

Antistreptococcic Serum—Squibb, 50 c.c. gravity container.

Squibb's Mint-Flavored Cod Liver Oil.

Abbott Laboratories:

Ampules Dextrose, 20 c.c.

Ampules Dextrose, 50 c.c.

Tablets Cinchophen—Abbott, 5 grains.

Eli Lilly & Co.:

Ephedrine Hydrochloride—Lilly.

Pulvules Ephedrine Hydrochloride, $\frac{3}{8}$ grain.

Pulvules Ephedrine Hydrochloride, $\frac{3}{4}$ grain.

Solution Ephedrine Hydrochloride—Lilly 3%.

Merck & Co., Inc.:

Bromipin 33 Per Cent.

H. K. Mulford Co.:

Pirquet Test for Tuberculosis (Bovine Type).

Tuberculin Ointment (Moro Ointment) (Bovine Type).

Tuberculin Intracutaneous (Bovine Type).

Antivenin (Bothropic).

National Drug Co.:

Diphtheria Antitoxin.

Normal Horse Serum.

Pertussis Vaccine.

Pneumococcus Vaccine.

Rabies Vaccine—Human (Semple Method).

Small-pox Vaccine.

Staphylococcus Vaccine.

Tetanus Antitoxin (Concentrated).

Typhoid—Paratyphoid Mixed Vaccine.

Typhoid Vaccine.

Antistreptococcic Serum.

Typhoid—Paratyphoid A Vaccine.

MacDowell Bros.:

MacDowell's Wheat-Nut-Casein Dietetic Flour.

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Scarlet Fever Streptococcus Toxin for Preventive Immunization—P. D. & Co.

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W. A. Puckner, Secretary.

Council on Pharmacy and Chemistry.

The Journal of the Iowa State Medical Society

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No. 2

LOOKING BACKWARD AND FORWARD IN MEDICAL EDUCATION*

WILLIAM J. MAYO, M.D., Rochester, Minnesota

During the ten thousand years of Egypt's history and near history there were no less than eight complete relapses into barbarism. The relics uncovered from the sands of time show much of interest in medicine, but comparatively little of scientific value.

The great advance in civilization which was evidenced in Greece was possible because Greece had ports on the Mediterranean through which entered not only commerce but also the culture of the East, which was recognized and incorporated by Greece into her national life, and brought to her an undying fame. While it is conjectural, there is evidence to show that the early history of Greece was influenced by 60,000 of the Nordic race who in the dawn of history had penetrated south into the Mediterranean littoral and contributed greatly to the glory of Grecian civilization. It is not here important to trace this hegira, except as it helps to account for the like-mindedness among the races of northern Europe, from whom the peoples of the United States, sprang, with the ideals of ancient Grecian and Roman culture.

Mathematics we owe to the Greeks, during their great days. As every student knows to his sorrow, time has not dimmed the importance of Euclid or minimized its difficulties. The Arabic system of numerical symbols, upon which our system of numerical calculations is based, contributed greatly to scientific advance. There is a tradition that the sidereal year, which was inherited from the Babylonians, was divided into thirteen months with the year day and a leap year day. A return to this convenient method of reckoning time may come, to replace the Gregorian calendar of twelve months with an uneven number of days in the months.

The progress of civilization was influenced to the greatest extent, however, by the adoption by the Greeks and Latins of the Phoenician alphabet, which supplied a basic principle of language. The stately language of Spain with about 120,000 words, of which only about 30,000 are in use, represents classical culture. Compare this with the English language with 500,000 or 600,000 words through enrichment by additions from various other languages. The very amplitude of English must make it the universal language.

The Chinese, without an alphabet, developed a system of ideographs, in which each character represents a word or idea. There are approximately 50,000 of these signs, 25,000 of which are too ancient to have value. The learned Chinaman probably knows not more than 12,000 characters, the man of average education not more than 6,000 and the ordinary coolie or laborer 100 or less. The ideographic method made Chinese literature a sealed book to the world.

The world has lost much by the paucity of evidence of early Chinese culture, especially as related to medicine. For example, Professor John Abel points out that the use of toad skins for dropsy by the Chinese, formerly supposed to be purely superstition, has scientific basis. Concoctions made from toad skins have been analyzed and found to contain a considerable percentage of a substance digitalis-like in its action. Certain large South American toads carry in pouches under the angle of the jaw a poisonous secretion from which Dr. Abel has extracted a crystalline substance which is essentially like epinephrine. The natives of the section of South America in which these toads are found, make a potent arrow poison from the combined principles of the pouches and skins. Evidently the effect of the digitalis on the vagus is accentuated by the effect of the epinephrine on the blood-vessels, so that death ensues rapidly.

As a matter of fact the early history of medicine generally is shrouded in a mist of folklore which has been handed down through the records contained in religious rites and fragmentary doc-

*Read at the dedication of the new Medical Plant of the University of Iowa, November 15, 1928, Iowa City, Iowa.

uments incapable of evaluation, in which one nevertheless can trace sound hygienic truths. The rite of circumcision practiced by certain tribes of Africa as a religious ceremony, originated as a measure to prevent filarial disease, which was much more common in the male than in the female, because of the long foreskin. In the laws of Moses, handed down as religious doctrines, are reflected basic hygienic rules.

Be this as it may, the greatest appeal of early medicine was largely to the emotions. In the ancient sense, to reach the emotions meant to arouse consciousness of the feelings of fear, anger, and hunger, the primitive urges of life. The attempt to locate the emotions, as we understand them today, in certain areas of the brain, can refer only to those emotions which appeal to intellectuality, and which undoubtedly are not generated in a particular part of the consciousness, but are an outgrowth of all those evolutionary changes which have been made by the progenitors of man from the invertebrate stage to the primates.

If one were to comment on modern medicine, one might say that the relation of the emotions of man to his physical condition is even less understood now than in prehistoric times. In medicine we have become so grossly material in our endeavor to demonstrate a physical basis for every form of ailment that we have lost sight of the fact that happiness is a state of mind, and life what we believe it to be. We must not overlook the fact that unstable emotions react on the physical condition of the patient in the same manner that perverted physical states activate emotional instabilities and that the emotions control the most important events in human existence. Emotional reactions to unfortunate social environment, mental worry, and poverty, are the mainspring of human unhappiness.

It is almost trite to say that the beginnings of clinical medicine were with Hippocrates. The "Aphorisms" of Hippocrates should be read time and again by every man who practices medicine.

To Aristotle and his students we owe the formulation of scientific methods based largely on deductive reasoning and primitive forms of inductive logic. Aristotle was the physician of Alexander the Great. When in the year 323 B.C. Alexander died and his conquered world was divided, it was his general, Ptolemy, who established a library and museum on the delta of the Nile in the city named for Alexander. For 300 years Alexandria was the center of learning, and it was here that the students of Aristotle gave an impetus to general science as well as to medicine

through the development of scientific methods, which might be said to be the foundation stone of modern medicine.

After the death of Cleopatra, the last of the ill-fated line of the Ptolemies, Egypt and the Near East again relapsed into barbarism. The knowledge accumulated there was preserved by the priesthood, however, through the dark ages which followed the fall of the Western Roman Empire early in the sixth century.

In the twelfth century there dawned the second great epoch of scientific advance. Abelard, Lombard, and others of this period were leaders in this resurrection of thought, and taught that understanding is essential to belief, in contradistinction to the ecclesiastical concept that belief is essential to understanding. From the intellectual controversies of the times grew the University of Paris, founded in the first decade of the twelfth century, to be followed by Oxford University in 1210, and Cambridge in 1231, the first evidences of systematic education in medieval times. This period ushered in the Renaissance, the spiritual revival which culminated in England and northern Europe in a complete change in ecclesiasticism.

The establishment of post offices in France by Louis XI in the fifteenth century greatly aided the diffusion of knowledge, and this system was taken up quickly in other European countries.

The name of William Harvey is inseparably associated with the third epoch of medicine. Harvey studied anatomy at Padua, Italy, under Vesalius, and on his return to London he became one of the physicians to St. Bartholomew's Hospital, and a lecturer on anatomy and physiology in the College of Physicians. It is of historical significance that he was the physician of Francis Bacon, the man who formulated inductive logic, which led to experimentation and research, the building of images to be compared with known facts.

As new evidences of Harvey's activities come to light, for instance, the researches of Le Roy Crummer, we gain a better perspective of the extraordinary character of his work. Harvey pointed out that the function of the pericardium is to prevent the heart from bursting during violent exercise, and that the peculiar twisting motion of the heart during systole is to empty its cavities completely of blood, as a wet cloth is freed from water by wringing. All of the scientific work of Harvey was characterized by the same logical association of facts that he manifested in his observation of the circulatory system.

Bacon in his "Novum Organum" stressed the misuse of authority in the schools of learning and the universities in his day which, he pointed out, resembled the misuse of authority in the lives of men by the ecclesiastics. Today misuse of authority of one form or another continues, chiefly because older men, who have reached the stage in which they believe they see permanence of their ideas, attempt to control the opinions of future generations. It is a rule of life that dreams and visions belong to youth, the wisdom of experience to age, but it is an age no longer with the radiant tissues of youth, but with the atheroma of advancing years.

John Mayow, who was the first of the physician chemists and whose investigations led to the discovery of oxygen, was, with Harvey and Bacon, of this Elizabethan or Shakespearean Age. The impetus given by the work of Harvey, Mayow and their scientific contemporaries led to rapid advances in clinical medicine.

The introduction of the microscope by the Janssen brothers, in 1590, was the most important event in scientific medicine. Modern medicine may be said to have begun with the microscope. The brain of man is a visual brain. In the lower vertebrates the brain was developed from the olfactory ganglion. In the primates, of which man alone has achieved preeminence, the cerebrum was developed from the visual centers, and all of the higher functions reside in the cerebrum and frontal lobes, which have overthrown the dominance of the olfactory sense. The sense of sight in man reaches directly to consciousness, and governs behavior.

We may pass rapidly over the 200 years between Harvey and the Hunters, who organized medicine as a whole. It should never be forgotten that the work of the Hunters in tracing the development of the lymphatic system can be compared only with the work of Harvey in value and logical sequence.

The microscope, as it gradually was improved, enabled Virchow to elucidate his theory of cellular pathology, Schmiedeberg to develop pharmacology, and, above all, made possible the work of the incomparable Pasteur and Lister.

It may seem that I have devoted a great deal of time to the past of medicine, but as Patrick Henry expressed it in his never-to-be-forgotten oration, it is only as we understand the past that we can predict the future.

In the early part of the nineteenth century medical education began to show evidences of standardization, and this movement was first

manifest in England. Although Italy, France, Belgium, and other European countries during the middle ages had furnished foundation stones in special lines of work, these fields, as developed, lacked coordination with clinical medicine. In England was the beginning of clinical investigation in which knowledge was more definitely correlated with bedside teaching. Considering, for example, Guy's Hospital, London, we note that here in the period from 1828 to 1838, Richard Bright, engrossed by the problems of nephritis, brought out monographs on this subject. The problems discussed were fundamental, and when it is considered that Bright carried out his experiments with a tablespoon, a candle, and nitric acid, supplemented by postmortem examinations, it is a great tribute to the man that his work still stands as the beginning of knowledge of the physiology and the pathology of the kidney.

Addison, in 1849, described pernicious anemia in a few pages, which dealt thoroughly with the fundamentals of this disease, and discussed the disease of the suprarenal capsules which carries his name. In 1855, he expanded this article on disease of the suprarenal capsules into his epoch-making monograph "On Constitutional and Local Effects of Disease of the Suprarenal Capsules". In the same period, Samuel Wilks made clinical investigations on disturbances of mentality, and Hodgkin made a study of that glandular disturbance which has been given his name and which still is baffling as to whether it is an entity or a form of lymphosarcoma.

Hilton, at about the same time made those observations which he embodied in a book, "Rest and Pain", which my father believed to be the most useful work of its kind that he had ever read. Hilton's nephew, Hilton Fagge, related postmortem findings with the clinical data in connection with cirrhosis of the liver and a host of other maladies, at that time obscure. Fagge wrote also "The Principles of Medicine". His early death before he had finished the second volume deprived the medical profession of the completion of the most useful system of medicine of its day. Like Osler's "Principles of Medicine", Fagge's text is worthy of study today. In this period also Jacobson wrote his "Operations of Surgery", with keen analysis and fine judgment. In my earlier years in medicine I studied this book faithfully, and it proved to be one of the most valuable texts with which I came in contact. Jacobson did not become full surgeon in Guy's Hospital until he was fifty-five years of age, and he held the position then only a few years.

Thus the historical events of Guy's Hospital represent an extraordinary record of only one of the many great hospitals of Great Britain.

In Scotland anatomy was developed as the base for surgery, and the Scotch school remains the leader in fine surgical dissections on an anatomic basis.

In the middle of the eighteenth century, owing largely to the improvements in the microscope, France surged to the front in scientific medicine, and many of our most prominent teachers of medicine were educated there. I have in mind particularly the late Maurice Richardson of Boston.

In the development of the germ theory, Germany with her usual thoroughness quickly gained supremacy, especially in the laboratory branches, a position which she held up to the outbreak of the World War.

I do not feel competent to undertake a comparison of the methods of teaching in the countries of Europe, because the many trips I have made abroad have been for the purpose of adding to my store of knowledge of surgical subjects, but I might comment in a general way.

In Germany the tendency has been to teach medicine through lectures extraordinarily complete in detail and with knowledge of the fundamentals of the subject, of which we have no counterpart. Excellent examples of this school today are the medical clinic of Freidrich Mueller at Munich and the surgical clinic of de Quervain in Bern. In these clinics, however, the students do not take an active part in bedside observation and care of the sick.

In England the manifest idea of medical education has been to make good physicians, and almost from the beginning students are brought into contact with the sick. I believe that, from the clinical standpoint, England today turns out the best physicians of any of the countries I have visited. English methods have more or less controlled American education, so far as our limited hospital facilities in the past permitted.

In the early period of medical education in the United States, the preceptor system was in force. The prospective medical student served time with a practicing physician, which oriented him in his quest for knowledge. His medical school attendance was relatively short, usually two years of four or five months each, on the lecture system, with short laboratory courses in anatomy and other fundamental branches.

The many medical schools which came into existence indiscriminately accepted students, many of them without cultural background. The great num-

ber of poorly trained men thus turned out illustrated the necessity of improving the cultural standards and facilities for medical education. This movement culminated in the splendid report on medical education by Abraham Flexner of the Rockefeller Foundation, which focused attention on the general inadequacy of medical education in this country, and led to a great reduction in the number of medical schools. The privately owned, stock-company medical colleges disappeared, and the regulations for medical education in the Class A medical schools rapidly made medical education in American schools the equal of that of any medical schools in the world. Our general tendency has been to combine the thoroughness of the German education in the fundamentals with the clinical instruction of the British.

The pendulum has swung from the poor medical school, with its one virtue of teaching clinical medicine, to the splendid medical schools of today, which place less emphasis on clinical and bedside instruction, and stress rather education for education's sake.

To a large extent the clinical side of medicine has taken a subordinate position to the accumulation of knowledge. Students have been overworked and have not had time to think. Memory tests have been thought to be adequate to gauge how good a practitioner a student would become, and memory tests have failed woefully to justify their prognostications.

The educator has assumed almost full charge of medical education. The educator is a man who teaches some set subject of which he has great knowledge, but without a clinical background. The attempt is to make the student an all-around specialist and the purpose of medical education, the relief of the sick, is too often forgotten.

Especially has the cultural background been overemphasized. We have followed the old English idea that to be cultural a subject cannot be of such nature that it can be used for gain. In the early days when I first visited England, the physician went, with the delivery boy, through the back door.

Modern educators recognize that the useful may be cultural. The study of the anatomy and physiology of man is as cultural as the study of the anatomy and the physiology of the stars, or the rocks, or any other subject.

I should like to see general anatomy and physiology, chemistry, and the so-called basic science subjects taught in the premedical courses, the application of these subjects to medicine taught in the first two years of the medical course, and the

last two years given up entirely to clinical medicine through contact with the sick.

In anatomy special attention should be given to relating the internal anatomy with external anatomic landmarks, so that the diagnostician may be able to visualize the internal organs by virtue of visible markings. One of the most useful books I ever studied was Holden's "Landmarks", which was published as an appendix to the earlier editions of "Gray's Anatomy", and is still included under the title, "Surface Anatomy and Surface Markings".

Surgical anatomy should be taught in the medical school with relation to operations of necessity, operations in which the question of delay is more vital than the question of skill: for instance, for strangulated hernia, acute appendicitis, trauma, and especially fractures and injuries, which the motor cars so tragically have increased. The specialized anatomy of operations of expediency has but a small place in the hands of the general practitioner.

Admitting that in my early days surgical procedures were learned on and at the expense of the patient, because there was no other way to learn in an advancing subject, today the untrained man has no right to perform operations which are not immediately necessary. He has neither the skill nor the experience to carry out this work, and above all, the Golden Rule should prevent him from performing operations which he would not permit others of the same training to perform on him or members of his family.

It was a great pity that the students of the English anatomist, Sharpey, should have separated the teaching of physiology from the teaching of anatomy and carried microscopic morphology into the teaching of physiology. Merely that the anatomic picture was microscopic did not justify separation of cause and effect. The anatomy is the building in which the purposes of the organs are carried on. Anatomy and physiology should be studied together.

Biochemistry is the science of living processes. When one can visualize and comprehend the anatomy and physiology of a tissue with the unaided eye, or the eye aided by the microscope, we call it anatomy and physiology, yet physics and chemistry as related to the chemical field are simply the anatomy and the physiology of those minute structures which lie in the field of the colloids, between the microscopic limits of $1/10$ micron or $1/250,000$ inch and $1/1,000$ micron or $1/25,000,000$ inch.

The teaching of physics and chemistry is too often in the hands of men who have little under-

standing of the medical student's problems. The student learns many uninteresting formulas because he must, yet there is nothing more interesting than biochemistry as related to the fundamental processes of life. Professor Gortner, of the University of Minnesota, whose studies in colloid chemistry have so greatly advanced agriculture, stresses the value of the teacher eliciting the interest of the student in biochemistry, and gives many examples.

Consider chlorophyll, the green coloring matter of plants, which has the power to use the energy of the sun's rays to remove the carbon dioxide from the air and minerals from the earth and deposit them in the form of carbonaceous compounds. Will it not interest the student to know that magnesium is the essential element in the transformation of the sun's rays in chlorophyll? To know that the oxidation of carbonaceous substances is due to one or more atoms of iron in each molecule of hemoglobin, that copper in place of iron is found in certain of the lower forms of life, and that copper has an important function in respiration?

Seventy-five per cent of the human body is composed of water, bound in some unknown manner into 75 per cent of its former volume, yet there is no known mechanical apparatus that will compress water. Will it not aid the medical student to understand the delicate acid-alkali balance of the body fluids, and those minute changes toward the alkali or acid which are of fundamental importance in clinical medicine?

The trouble with present-day medical education is that it attempts to teach the student to memorize and store facts, many of which can be learned readily from books without burdening the mind, and enable him to use his knowledge with wisdom. After all is said, graduation from a medical school merely enables the student to enter on his life of study.

There is a tendency to make the profession of medicine an aristocracy. The cost of medical education, the number of years before men can be self-supporting, the age at which students are graduated, averaging about twenty-seven years, is driving many bright men into other professions. Yet investigation has shown that the student who is graduated before he is twenty-five is of greater average professional worth at the end of fifteen years than the one who is graduated after twenty-five, and I am told that those who rank in the second half in scholastic attainments at a medical college are on an average of as great professional value at the end of fifteen years as those in the first half.

The proportion of the enormous cost of medical education borne by the taxpayers or by endowed funds is three times the amount paid by the student, and this burden is carried willingly by the people for the purpose of having good physicians. I believe that the function of the medical school is to turn out medical practitioners and that the specialties should be taught after graduation in medicine. I believe that one year should be saved in our grammar schools, and that adequate cultural education should be given in the high schools, so that the premedical course might be devoted to the basic science subjects, saving two years of time, and that the medical school should devote its time to the proper education of general practitioners.

Further, I see no reason why the four-quarter system should not be adopted in high schools and colleges as well as in medical schools. Why young people at the strongest time of their lives physically and mentally should have a vacation of three months, when the world is on the twelve-month working basis, I am unable to see. By the adoption of some such program our medical students would graduate well under the age of twenty-five, and have sufficient time to develop specialties as graduate subjects.

As one looks into the future of medical teaching, one must recognize at once the impossibility of doing more for the medical student during the time he is being educated as a general practitioner than to give him a good working knowledge of the fundamentals of clinical medicine.

In some manner there must be correlation of the work of the specialist as applied to the sick man, and this must come through well educated general practitioners. The patient cannot know what specialist he should consult, and the specialist cannot know the needs of the patient beyond his specialty.

We must bear in mind the difference between thoroughness and efficiency. Thoroughness gathers all the facts, but efficiency distinguishes the two-cent pieces of non-essential data from the twenty-dollar gold pieces of fundamental fact.

We must recognize the limitations of the human mind. We must see that our students are not burned out mentally in the attempt to do the impossible. And if our problem is complex at the present time, in what one might call the microscopic era of medicine, how much more difficult will it be in the coming ultramicroscopic era for the human mind to cope with the intricacies of the newer and more important studies.

On every side we have evidence of the changing character of medical education, and it will

take the best minds in the medical profession to solve the many problems which immediately confront us.

ORTHOTIC ALBUMINURIA*

FRANK CARROLL, M.D., Cedar Rapids

A class of cases have come under the observation of the eye specialists during the past few years which in many instances have not been properly diagnosed. The fundus of the eye has shown a condition which has been variously termed, physiological congestion, retinal irritation, retinal congestion, slight chorio-retinitis, and various other names—none of these meaning anything and none of these giving any index as to the real condition which exists or as to what the treatment should be.

Many times specialists have suspected the presence of albumin in these cases and have sent the case to the general practitioner for a report as to the kidney condition and almost invariably the report has come back that there was no albumin in the urine.

The general practitioners have many times been at fault in their examinations in these cases for the reason that in many cases albumin did exist and escaped their notice. The case which I am now reporting is a record of one of these cases which may be easily overlooked and the name which has been given to this condition or disease is orthotic albuminuria. These cases of orthotic albuminuria are peculiar in the fact that the morning specimen of urine shows no trace of albumin, while at noon, or after the patient has been in the upright position for a few hours; if the ring test is used albumin will appear.

In 1899 Tessier proposed the name of orthotic or orthostatic albuminuria for this condition. This condition is also known under the names of cyclic and postural albuminuria. We are still in ignorance as to the exact nature of this disturbance. It is equally prevalent among the young of both sexes; and usually occurs in poorly nourished anemic individuals.

The amount of serum albumin that appears in the upright position is, in the majority of cases, but a trace shown by heat and acetic acid test and will seldom if ever show in as gross a test as nitric acid. Serum globulin is seldom present. The albuminuria usually reaches its maximum in from three to five hours of erect posture and

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then gradually diminishes. Exercise seems to have no effect on the amount of albumin and when performed in the lying down position never produces orthotic albuminuria.

Erlanger and Hooker, in the 1904 report of Johns Hopkins Hospital give as the probable cause of orthotic albuminuria, vasomotor instability, a diminished pulse pressure causing the albuminuria.

Jehle gives increased lordosis causing a mechanical interference with the renal circulation, while Tessier in the *Revue der Medicine* in 1905 thinks orthotic albuminuria is caused by a developmental defect of glomeruli resulting in their increased permeability. It is true that there is a remarkable decrease in pulse pressure when orthotic albuminuria cases assume an upright position.

American Journal of the Medical Sciences, 1918, states there is not much doubt but that the eye symptoms always present in orthotic albuminuria are due to certain abnormalities in cardiac function. This has been nicely brought out by Bass and Wessler of Mount Sinai Hospital in their report published in 1913. They report the size, shape and rate of the heart and these conditions surely must have an influence upon the retina. They also say that orthotic albuminuria is not at all infrequent, that it occurs in children otherwise apparently normal, that in many cases it occurs only as a concomitant symptom of a constitutional lack of development, the evidence of which may be found universally distributed throughout the body. In many cases however, no constitutional symptoms are found and this peculiar albuminuria manifests itself in the eye alone.

In all of the literature upon the subject of orthotic albuminuria that I have been able to find, and the writings are numerous, no mention is made of the condition of the fundus of the eye. To me this seems to be one of the most important diagnostic points, especially when the eye man is working with the internist or the urologist. This albuminuria is not constant but may disappear from time to time and recur at infrequent intervals. Most of these cases are found in children with a neurasthenic tendency and sometimes may be grave indeed, although in the majority of cases rest is all that is required to make the child well. Sometimes the albumin will persist in the urine when all of the other symptoms have disappeared.

In children of a decided neurasthenic tendency the treatment must be a general one and not directed to the eye wherein the diagnosis was made, nor must it be a dietetic or postural one aimed at

the albuminuria per se, but must be one to restore the entire nutritional condition of the child to a normal level, when it will be found that the albumin will spontaneously disappear.

James W. Russell of the University of Birmingham, England, contends that many cases of orthotic albuminuria are the result of infection. I do not suppose that so small a man as I am should question so great an authority, yet I doubt seriously if a single case of orthotic albuminuria was ever caused by infection. The trouble with most of the extensive reports on orthotic albuminuria is the fact that these reports are institutional and are not from the private and active practice of the men making the reports and it must be remembered that whereas the man in an institution may do as he pleases with his patient, and treat this patient as he pleases, the man in private practice very often finds himself handicapped in his efforts by failure of patients to carry out his orders.

Orthotic albuminuria follows scarlet fever, diphtheria, and allied diseases. It has been suggested that in cases of orthotic albuminuria that the albumin comes from one kidney only. It is peculiar that this albuminuria occurs most frequently from the left kidney. Orthotic albuminuria is a local condition and not a general one. Orthotic albuminuria is of a more frequent occurrence than is ordinarily supposed. It is very liable to pass unrecognized owing to no albumin showing in the morning specimen. Extreme variations are always to be expected. Very few cases of really recognized orthotic albuminuria have ever been reported. Dr. Uyeda of Tokio has found orthotic albuminuria in thirteen grown men. Necropsy reports are rare. Any albuminuria that resists alkalinization of the urine cannot be classed as orthotic albuminuria.

Diagnosis—The diagnosis of orthotic albuminuria is not especially difficult and yet it depends very largely upon the accuracy with which the urine examination is performed. The diagnosis cannot be made in a single or even sometimes in a dozen examinations, and may require as many as twenty-five to fifty examinations to really establish a diagnosis of this disease, although I believe that a fairly certain diagnosis may be made by the oculist from the condition of the fundus at any time.

The progress of these cases is to a certain extent chronic, some few cases being recorded which have lasted for as long as twenty years, but most of them respond to treatment within a few weeks or months. The prognosis is most favorable in all cases, but of course there are

some things which would make prognosis unfavorable as sometimes these cases terminate in a true nephritis. Loeb considers this transition possible and it really seems as though it may be so, although this is not usually the case in children and it is in children that we find these cases almost all of the time. In cases of cardiac insufficiency and in certain cases of anemia it may be possible that the persistent although slight choking of the kidney and the imperfect nourishment of the renal parenchyma may lower the resistance of the epithelium against the irritation which attacks the kidney and which under normal circumstances would not induce a nephritis. In this way it is possible that a nephritis may develop. It is certainly remarkable that individuals suffering with orthotic albuminuria do not more often develop a nephritis, especially at such times as they may be attacked by infectious diseases. A rigid line of differentiation between orthotic albuminuria and nephritis is very important when we come to prescribe the line of treatment. Most authors claim that there is no treatment that is satisfactory, yet the fact remains that, if you can build up the general physical condition of the patient to normal, the albumin will entirely disappear. There is no reason to order a child suffering from orthotic albuminuria to be confined in bed, nor to abstain from bodily exercise, but there is a decided reason for asking this child to refrain from the use of the eyes from the fact that this form of albuminuria affects the retina very decidedly. No particular restriction is indicated as to diet, as it is only required that the child shall be well nourished. Out of door life and good living combined with rest for the eyes will almost always produce the right result and of course preparations of iron or reasonable tonics may be given at all times.

Conclusions—First, I find in the literature that eye symptoms are not discussed and rarely spoken of.

Second. The symptoms so commonly complained of; headache, lassitude, constipation and loss of weight are the natural results of physical conditions.

Third. Low blood-pressure is undoubtedly the cause of albuminuria rather than a mechanical interference with the venous return from the kidneys.

Fourth. An eye case sent from a specialist to the family physician for urine examination should be examined in all the ordinary ways and in addition a test should be made of the morning and of the noon urine and the ring test should be applied in all cases.

Fifth. Do not think that because you find nothing and the child seems to be in a perfect physical condition that the oculist has made an error, but make a very careful examination of the urine for at least fifteen or twenty times and then make this report to your oculist.

Sixth. Give the oculist credit for knowing what he is talking about when he sends you this case and report to him at once anything and everything in the condition of the child that you may discover regardless as to whether you think it will help him or not.

One patient, R. T., is a sixteen year old girl first seen by family physician nine years ago during an attack of chorea, followed by mild cardiac symptoms, tachycardia and a mitral murmur. These cleared up and about four years ago she had a moderate attack of scarlet fever during and subsequent to which albumin was found in the urine. Two or three times since then albumin has been found in the urine, but at no time have casts been demonstrated to be present. The occasions where examination of the urine was called for was usually the supervening of headaches or periods of unusual fatigue. At a number of such times the urine was found to be normal and at other times to contain albumin. About three months ago at my request, tests of the urine were made every day for about three weeks. First, morning specimens were used and no albumin was found, but on taking the urine specimen at noon it was found that a reaction occurred. For another week these tests were carried out and they uniformly showed this phenomenon to be present. Normal urine in the early morning, albumin showing at noon, no casts present at any time. While perhaps not a typical case of orthotic albuminuria it is quite suggestive of this affection as described in all of the late text-books of pediatrics.

This condition is said to obtain quite frequently in children of from five or six years of age on to the end of adolescence and to be associated with a moderate departure from robust health in most instances, but to occur sometimes in children with apparently perfect health. It does not predispose to Bright's disease and exists without demonstrable lesions in the kidneys macroscopically or microscopically as proved by autopsy on patients with this affliction dying from accidental causes. This form of albuminuria is said to be not rare and yet in my thirty-five years of practice I have met with few cases in which I have been sure that the diagnosis was orthotic albuminuria. When this reported case first came to me she had a little asthenopia and a slight

headache which was fairly constant and she showed some evidence of eye strain. I refracted her and found her to be slightly farsighted. I prescribed glasses and these seemed to give her relief for over a year when she again began having trouble. I found I could not improve her glasses and on examining the fundus discovered a condition of the retina which caused me to send her to her family physician for examination of the urine. A careful examination was made and diagnosis of orthotic albuminuria established. She has been under careful observation and is now apparently well. Her treatment has consisted principally in nonuse of the eyes and careful care of her body.

I have used freely all articles in journals of which I have been able to avail myself, and also have used a number of medical text-books. I desire to give full credit to any man from whom I may have quoted without giving complete bibliography.

Discussion

R. R. Snyder, M.D., Des Moines—In reviewing the literature on this subject I find that much has been written concerning the incidence, etiology, pathology and treatment. Most of the writers are rather unanimous in their statements regarding the ages at which it occurs most frequently, that being from fourteen to twenty-two years, although some cases have been reported which have persisted till old age. As to its etiology, there is a wide range of opinion; each writer proving to his own satisfaction, at least, that his particular theory is the correct solution. Post and Thomas believe that the habitus of this condition is so characteristic that the condition can often be correctly predicted from mere inspection. Their description of such an individual follows: "Young children are thin, rapidly growing, of the weedy, frail type, the chest is long and narrow, the scapulae and abdomen are prominent and the heart which by percussion is apparently hypertrophied is actually long and dropped as shown by the fluoroscope. There is widespread evidence of vasomotor instability, pale skin, red lips, moist and cold cyanotic hands, dilated pupils, subjective lassitude, headaches, dyspnea, faintness, palpitation, vertigo, sensitiveness to cold, and sound sleep with attendant tiredness in the morning. Altogether the subject is a high strung and irritable child." Bass and Wessler, who have done a great deal of work on this subject, state that the physical condition of the patient has nothing to do with the albumin in the urine but that it is entirely a postural affair due to constriction of the renal artery producing an artificial albuminuria in individuals. I agree with Dr. Carroll in that every article which I have read, I found nothing as to eye findings in this condition with the exception of widely dilated pupils. I should like to ask Dr. Carroll what the fundus find-

ings are in this condition. The chief lesson to be derived from a study of this subject is that the presence of albumin in the urine is not always diagnostic of kidney disease and we must determine whether we are dealing with a true nephritis or a condition known as orthotic albuminuria.

F. W. Bailey, M.D., Cedar Rapids—This condition of orthotic albuminuria is considered rare because we rarely hunt for it and perhaps in this way do not recognize it very often. I cannot agree with Dr. Carroll in some of the statements he makes. He states that the condition is local and then goes on to say that the condition can be detected by looking at the fundus. It seems unreasonable that a trace of albumin which takes perhaps fifty tests to determine would show ocular pathology when some of the most advanced cases of Bright's disease show no fundus lesion. The doctor states that he does not believe this condition is caused by infection and then goes on to say that it frequently follows infectious diseases. He also states that the condition exists mainly in under-nourished children—I recall a report of Dr. Wheeler, who states that on examination of 176 college athletes, 130 of them had orthotic albuminuria.

A. J. Bedell, M.D., Albany, New York—I would like to have Dr. Carroll describe the fundus findings in a case of orthotic albuminuria. I am very interested.

Dr. Carroll (closing)—As to the description of the fundus. Perhaps all that I could say is that it looks suspicious. A peculiar retinal irritation makes one think of a retinitis. The retina is slightly congested and of almost reddish cast, darker cast than normal, but mild. Just an indication, but definite enough to refer the patient to a general practitioner. It is definite enough to make one think that something is wrong. Regarding Dr. Bailey's statement as to the examination of athletes: this disease occurs up to and past the age of adolescence and is found in a number of men. Naturally we should expect to find some cases in routine examination of any group of athletes.

VINCENT'S ANGINA*†

PAUL F. STOOKEY, M.D., Kansas City, Missouri

The literature that has accumulated concerning the activity of Vincent's organisms, is extensive. It is significant that most of this literature has accumulated in the past ten years, the result of the frequency Vincent's angina was encountered by army surgeons. The experiences with this infection of ten years ago, have been carried into civil life. Today Vincent's angina is on the increase, or, we are more familiar with this infec-

*From the Contagious Service, Kansas City General Hospital.
†Read before the Scott County Medical Society, Davenport, Iowa, October 2, 1928.

tion and diagnose it with greater accuracy. I suspect the latter contention is the correct one.

One may find an excellent description of this infection in Blair's *Surgical Diseases of the Mouth and Jaws*,¹ written prior to our entry into the war. This description is complete, accurate and states that prior to the eruption of the teeth in the child, the oral cavity is free from Vincent's organisms. Of late the trend of opinion has been, to consider the manifestations of the infection in the oral cavity with Vincent's organisms as contagious, and with this idea in mind it was decided that a survey of the patients in the Kansas City General Hospital be made relative to the incidence of Vincent's organisms in the normal mouth.

One hundred cases were selected at random from the wards; none of these cases complained of infection in the oral cavity at the time of admission to the hospital. Slides were made from each tonsil, the upper and lower gingival tissue and the posterior wall of the pharynx. Seventy-two per cent of the mouths examined, showed the presence of the fusiform bacillus and its associated spirochaete.

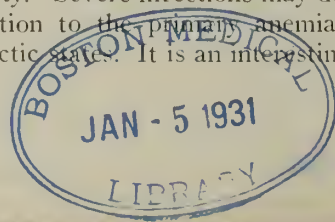
Bloodgood's² observation, that the edentulous mouth does not contain Vincent's organisms, was investigated. Twenty edentulous mouths were examined and five positive results obtained. While slides from five out of twenty cases who had experienced complete dental extraction showed the presence of Vincent's organisms, I have never experienced pathological activity in the edentulous mouth that would warrant a clinical diagnosis of Vincent's angina. The impression is current that Vincent's angina is transmissible and the infection is considered as contagion. This impression took form, I am sure, from the number of cases that developed among the troops in the late war, particularly in the expeditionary forces. I had the opportunity to see a considerable number of these army cases, and in my judgment, the lack of facilities for proper hygiene of the mouth associated with extreme muscular exertion and its resulting dehydration that every soldier experienced, were, at least, contributory factors. The extreme susceptibility of the mouth of dehydrated patients to Vincent's infection is well illustrated by the frequency of this infection as a complication in diabetes, pellagra, mercury poisoning, starvation and allied conditions where tissue dehydration is present. I have been anxious to make slides for bacterial examination from the mouths of patients suffering from typhoid fever, but fortunately material has not been available. If Vincent's angina is an infec-

tion that is transmissible where men are grouped together, the federal penitentiary would be an ideal place to observe the infection developing in contacts. Dr. C. A. Bennett, physician in chief, U. S. Federal Penitentiary, Ft. Leavenworth, reports in a personal communication, three cases developing among 3500 inmates during the past fiscal year. Evidence of the contagious nature of this infection cannot be obtained from this institution.

HISTORY AND BACTERIOLOGY

The original description of the fusiform bacillus and its associated spirochaete, is usually attributed to Vincent Goadby, in his text-book of *Diseases of the Mouth*. In it he states that the organisms were first isolated from gangrenous tissue in an attempt to establish the etiology of hospital gangrene. In a special article published in the *Journal of the A. M. A.*, Plaut⁴ is given priority in the description.

The organisms are a coarse comparatively straight spirochaete that stains readily with all the common dyes and its associated fusiform bacillus, a sausage shaped organism that occurs in necrotic tissue. It is probable that the fusiform bacillus, as originally described, represents several closely associated bacteria. Ruth Tunnicliff⁵ considers the spirochaete and the fusiform bacillus as one and the same organism, the different form being a part of the life cycle of the organism. The staining reaction to Gram's stain is also unusual, in that certain of these organisms are Gram positive while others are Gram negative. Growth outside the body is difficult, but pure cultures have been obtained. In health the organisms are present in the mouth, being isolated from the gingival tissue, tonsils, and posterior wall of the pharynx. They also occur on the genitalia of uncircumcised males and around the clitoris of females. Greenbaum⁶ has recently isolated this organism from the skin on the back of the hands in a case of pellagra. During health the organisms live a saprophytic existence, but under favorable conditions, either constitutional or local, they become pathogenic and are intimately associated with ulcerative gingivitis, lung abscess, bronchiectasis, noma, gangrene of the lung and ulcerative lesions of the genitalia in both sexes. The organism has been found in otitis media. As a secondary invader, the organisms are present in a large per cent of all cases of diphtheria, scarlet fever, tonsillitis, stomatitis—from bismuth and mercury, and syphilitic ulcerations in the oral cavity. Severe infections may develop as a complication to the primary anemias and terminal cachectic states. It is an interesting and



significant fact, that experimentally, when Vincent's organisms are injected into laboratory animals, death occurs only when the injected Vincent's organisms are accompanied by a streptococcus. It is a safe assumption, that blood stream infection with Vincent's organisms, does not occur in the human, although it is possible for Vincent's infection to afford a port of entry for the associated bacteria—most frequently the streptococcus. I am convinced that this assumption must be accepted to explain the deaths from sepsis that occasionally occur as a sequella to a severe Vincent's angina.

Vincent's organisms are demonstrated from genitalia smears around the clitoris in 60 per cent of all cases. Pathological activity is extremely uncommon. Robinson⁷ of Galveston reports two cases. I have recently encountered my first case in the Kansas City General Hospital. The patient entered the hospital with a severe Vincent's infection involving the floor of the mouth. The external genitalia, including both labia, were covered with a grayish membrane which extended to the vaginal orifice. The process invaded the skin over the entire perineum and surrounded the anus. Under the membrane, which could be removed, the skin was macerated and exuded much serum. The clinical impression was diphtheria of the skin. Cultures were negative and 20,000 units of antitoxin did not influence the process. Slides showed innumerable spirochaetes and fusiform bacilli. The entire process cleared up rapidly under intravenous neo-salvarsan. The patient was discharged from the hospital. Six weeks later she reentered the hospital and was assigned to the Medical Service, suffering from pulmonary infection, to which she succumbed. At the necropsy by Dr. Robert Koritschoner, every possible effort to isolate Vincent's organisms from the lung tissue was made. The lung tissue was stained with silver by the Levaditi method with negative results. Death was caused by streptococcic infection of the lung with sepsis. At the time of death a severe recurrence of the Vincent's angina was present in the oral cavity.

On the genitalia of males who have a phimosis, Vincent's organisms can be demonstrated from the smegma in over 50 per cent of all cases. Under proper conditions, of which lack of hygiene is perhaps all that is required, pathological processes may develop. The first, a gangrenous balanitis that terminates in complete destruction of the penis and frequently in death. The behavior of this infection is to be compared to noma, in that its tendencies are extremely destructive. Corbus has described several cases. I

have never encountered this manifestation of Vincent's infection.

The second process is a superficial balanitis from Vincent's organisms, which was frequently encountered in the American expeditionary forces. I have seen at least twenty cases. The disease commences as a superficial erosion of the mucous membrane and is associated with marked edema of the prepuce. The ulcerative process is superficial, involving only the mucous membrane and exceptionally the glans. One dose of intravenous neo-salvarsan is specific—recovery being extremely rapid. While the possibility of the activity of Vincent's organisms upon the genitalia of both men and women is to be recalled in obscure manifestations of ulcerative process, it is also to be recalled that these are rare manifestations of activity on behalf of Vincent's organisms.

LUNG

In the lung, as well as in the oral cavity, the activity of Vincent's organisms is that of a secondary invader. The process that produces the original infection may be embolic or the direct result of aspiration and the secondary invasion with Vincent's organisms will overshadow the original infection. In a discussion of this kind, consideration of lung abscess and gangrene is impossible, but in passing we must mention the individual who suffers from bronchiectasis and its associated emphysema with a severe pyorrhea alveolaris. Such an individual will have repeated attacks of severe bronchitis—frequently with severe constitutional symptoms. The fetid type of case with profuse foul morning expectoration is occasionally complicated with a Vincent's infection of the base of the lung and following the correction of the pathology in the upper nasopharynx or mouth, is followed by marked improvement. In the presence of severe mouth infection with marked recession of the gingival tissue, correction may mean complete extraction. True, the emphysema and bronchiectasis are permanent changes, but the removal of the infection from the upper respiratory tract protects from the recurring exacerbations that are so typical of bronchiectasis, and the symptomatology dependent upon the absorption of toxins, disappears.

VINCENT'S INFECTION IN THE ORAL CAVITY

In the clinical consideration of Vincent's angina, noma, while considered a manifestation of this infection by most clinicians, will not be considered. The diagnosis of Vincent's angina made as a primary infection is frequently open to se-

rious question, and justly so. However, I am sure, a considerable percentage of cases are primary, in that no other pathological state can be established. Equally true is the fact, that in my experience, the preponderance of cases are superficial secondary infections. The infection may attack any structure in the oral cavity—the tongue perhaps excepted. While it is true the membrane may extend from the gingival tissue upon the tongue to the free margin, in severe cases the dorsum of the organ generally escapes invasion by the membrane. Numerous small bright red spots somewhat resembling the strawberry tongue of scarlet fever, but of a much brighter hue, are common. The comparative immunity of the tongue to infections that occur in the oral cavity, has been the subject of considerable comment. Vincent's angina may originate around the third molar in the lower jaw, spread rapidly over the entire gingival tissue and subsequently invade the tonsils and the posterior wall of the pharynx. I believe that most of the true cases begin in this manner. The tonsil is very prone to ulcerate, the ulceration being unilateral or bilateral. On the posterior wall of the pharynx in uncomplicated cases, the membrane produced gives the "stuck on" superficial appearance so characteristic of impetigo on the face. Frequently the membrane is white and glistening resembling ethyl chloride on the skin. I believe the primary invasion of the gingival tissue and the subsequent invasion of other structures in the oral cavity, is of extreme importance in an attempt to establish a differential diagnosis. It is true in the minority of cases, the tonsil may be the primary seat of infection. The posterior wall of the pharynx may show the first manifestation of the infection, but this is very exceptional. I have no diagnostic confidence in a positive smear for Vincent's angina from the oral cavity. Such a smear may be obtained from the healthy mouth. However, cases that present ulcerative lesions of the tonsils due to Vincent's organisms, the negative findings for other pathogenic bacteria are, in my judgment, of some significance. It is remarkable how rapidly the ulcerative lesions of the tonsils will progress. In as much as the involvement of the gingival tissue is frequently the key to an accurate diagnosis of primary Vincent's angina, it is well to consider the reaction of the gingival tissue to this infection. The infection begins at the free margin of the gum; the buccal surface shows a more severe degree of involvement than the lingual. The lower jaw likewise shows a more severe reaction than the upper. The membrane present over the gingival tissue is in reality a slough, a necrosis of the superficial gingival tis-

sue. The extension of the gingival tissue between the teeth is destroyed. The flow of saliva is increased, the gums bleed freely upon the slightest provocation, a characteristic odor is present on the breath, all the teeth are tender on pressure; and the glands on the floor of the mouth are frequently enlarged. In the absence of secondary infection, the blood count frequently shows a relative increase of the mononuclear elements.³ Pulse and temperature are frequently slightly elevated. In the cases where Vincent's angina is a secondary infection, the diagnostic difficulties are well illustrated by Miller and Epstein quoting Bermerdoin.⁸ They report the incidence of Vincent's organisms in the oral cavity in contagious diseases as approximately 75 per cent. In diphtheria the acute illness of the patient is obvious. The laboratory should isolate the diphtheria bacillus, but in typical cases the diagnosis may be extremely difficult. I have frequently administered antitoxin in doubtful cases.

Follicular tonsillitis presents a marked elevation of pulse and temperature with an abrupt onset. Smears show a preponderance of streptococci and the membrane is confined to the tonsil.

Syphilitic ulcerations in the mouth are frequently perplexing. The mouth contains so many spirochaetes, that we have long ago abandoned the use of the dark field in the oral cavity. If syphilis is suspected, the diagnosis should be established from the existence of the primary lesion, the adenopathy and skin reaction. In our experience this has been a frequent problem of differential diagnosis. When Vincent's angina is a complication to some existing constitutional disease, the routine physical examination and laboratory procedures should elicit this information.

The problems of differential diagnosis in the oral cavity are well illustrated by the following case received at the Contagious Service of the Kansas City General Hospital. A woman approximately fifty years of age, presented herself at the dispensary complaining of sore throat. Examination showed a membrane extending across the soft palate from tonsil to tonsil. The uvula was markedly edematous and on the soft palate just above the uvula, was a small superficial bean shaped ulcer. A tentative diagnosis of Vincent's angina was made which was supported by a positive slide from the laboratory. The admitting resident physician was impressed by the membrane and his observations were rewarded by a report of a positive culture for the Klebs-Loeffler bacillus from the laboratory. The attending staff physician remarked that the woman was past the diphtheria age, that the gingival tissue showed no signs of Vincent's angina and offered

the opinion that a bean shaped ulcer on the soft palate was generally syphilis. The Wassermann was 4 plus. All local treatments were withheld and the patient placed on intramuscular injections of mercury and large doses of potassium iodide. The lesions rapidly disappeared.

I am convinced that an infection that spreads from the gingival tissue to the tonsils and posterior wall of the pharynx associated with the formation of a membrane and perhaps ulceration in the tonsils, is most certainly Vincent's infection. Vincent's infection may develop primary in the tonsils or on the walls of the pharynx, but, such a diagnosis should be offered with extreme caution only after serious consideration of the other pathologic possibilities, that occur in the oral cavity.

TREATMENT

It is obvious that the treatment of an infection of this character is based upon an accurate diagnosis. A Vincent's infection superimposed upon a diphtheria of low virulence, will demand antitoxin. A syphilitic ulceration upon the tonsil or posterior wall of the pharynx covered with a dirty gray membrane of considerable proportion, will respond rapidly to therapy with mercury even if organic arsenic is withheld. We have demonstrated this fact to our own satisfaction in the Contagious Service of the Kansas City General Hospital, upon numerous occasions. Cases of Vincent's infection that are associated with some constitutional disease demand a search for an existing high blood sugar. Diabetes and pernicious anemia are most frequently encountered. Mouths of young adults who show no evidence of constitutional disease demand a careful inspection of the tonsils between attacks, for the liability of recurrence in these cases is great. Tonsillectomy during the interval may result in cure. Attention should be given to the third molar tooth, because a crowded third molar is the origin of this infection in a considerable per cent of the gingival type of infection in healthy young adults. Extraction is indicated for a subsequent cure. It is the recurring type of case that demands attention to the tonsils and teeth. The treatment of the infection, as practiced in the Contagious Service of the Kansas City General Hospital, is simple. The patient is instructed to gargle and cleanse the mouth carefully every half hour when awake, with a solution of peroxide of hydrogen diluted one-half with distilled water. A local application of 10 per cent fresh neo-salvarsan in glycerine is applied with an applicator once in twenty-four hours. Neo-salvarsan is administered intravenously. The therapeutic re-

sponse to intravenous neo-salvarsan is prompt and healing of the destructive ulcerative lesions, particularly in the tonsils, occurs with surprising rapidity. As a broad general observation, the gingival type shows less response to treatment by intravenous organic arsenic than the type with extensive ulcerative lesions attacking the tonsils.

The list of local applications recommended in Vincent's angina is extensive. After two or three year's of experimenting, the above simple procedure has been adopted as a routine. If the disease is confined to the gingival tissue, the case should be referred to the dental surgeon for treatment.

SUMMARY

In a disease of this nature, that is a superimposed secondary infection in the majority of cases, definite conclusions are impossible to draw. The following points have, however, accumulated from the experience of others and my own observations.

The organisms of Vincent's angina are present in the mouths of normal individuals who show no evidence of pathology in the oral cavity. The Vincent's organisms have been isolated from the genitalia of normal men and women without signs or symptoms of local inflammatory reaction.

The fact that Vincent's angina is transmitted by contact, is in my judgment, not established.

The organisms are saprophytic inhabitants of the mouth and genitalia—in health under proper conditions both constitutional and local they become pathogenic and develop destructive ulcerative tendencies.

The saprophytic existence of Vincent's organisms in the oral cavity, is in some way connected with the teeth. Blair¹ calls attention to the fact that the organisms are not present until the teeth are erupted. In the edentulous mouth the infection does not occur.

In cases where the primary infection develops in the gingival tissue and the process extends to the tonsils, a clinical diagnosis of Vincent's angina may be made with a considerable degree of confidence.

In recurrent cases, tonsillectomy, in the period of quiescence, is frequently followed by cure. Another frequent source of this infection in normal individuals with a clean mouth, is a crowded third molar tooth. The overhanging gingival tissue is injured by the bite and the infection spreads from this focus. Extraction is indicated in recurrent cases.

In cases that develop in middle age in individuals whose oral cavity shows no evidence of pathology, search should be made for a constitu-

tional cause, as severe, rapidly destructive lesions of the gingival tissue occur in pellagra, diabetes, pernicious anemia, leukemia, and as a symptom of poisoning with the heavy metals.

Organic arsenic locally and intravenously has been the best therapeutic agent in our hands.

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CLINIC *

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CASE No. 1, presented by Dr. A. P. Stoner, Des Moines.—Patient, male, age 28, depressed skull fracture.

This man on August 27th sustained a head injury by falling from a ladder, which fell upon him, a large bolt striking him in the right temporo-frontal region. Apparently he was quite all right for an hour or so after the injury, then he began to vomit and complain of being sick. He was given some salts and then vomited some more. Since the first evening he has not vomited. He had some headache that afternoon and evening, since which time he has had no headache. He has such an appetite that he cannot get enough to eat. The next afternoon the blood pressure was 125 over 80 and it has not varied much since. There does not seem to be much the matter, yet the x-ray picture taken after the injury reveals that he has a fracture of the skull and must have had quite a severe shock to his head. But, after all, the great consideration in head injuries is whether there has been any injury to the brain.

The patient is rational; he has remained conscious and rational ever since the accident, and under these circumstances there is usually not much crying need for any surgery. However,

the course of treatment will be determined by what the blood pressure may show. If there is very much bleeding going on, presently the rising blood pressure will point to that fact. This may be the first thing that points to increased intracranial pressure—a rising blood pressure and a falling pulse.

One may see from this x-ray picture that there is a good deal the matter with that skull. From one point there are several radiating lines, but looked at in another way you see this is all together a very serious condition. There is no head injury so slight that it should not be considered serious, and no head injury so serious that it should be considered hopeless. There is a picture which shows a portion of bone driven in beyond its normal level.

The patient appears quite well. We now look at the sole of his foot to see if there is any pressure on his right motor area. The reflex is not quite as actively normal as it ought to be, the toes do not come down as quickly as they should, but there is a tendency toward fanning of the toes which is not a normal reflex. It is more like it on the other side, the toes come together; on the other hand, while they do come somewhat together, they extend more than they should.

In the case of rising intracranial pressure the first reflex to be lost, is, I think, the reflex of the abdominal muscles. In this case it is good on the right side, less on the left. The cremasteric reflex is perhaps the next to show sign of change. He has a good cremasteric reflex on the right side and it is less on the left.

The pupils are equally dilated, they are regular and react to light. (Testing the eye-grounds.) As far as I can make out the discs are perfectly clear. He apparently hasn't much the matter, and the question arises what will be done about the case. He has a depression in the skull, but seems apparently normal. I believe it is the opinion of those doing this kind of work that if there is a depressed bone it ought to be elevated, it ought not to be allowed to remain as it is. Why? Because it has been noticed that in these cases a number of unpleasant sequelæ occur. Any time after a period of four weeks patients who have this kind of condition sometimes develop very unpleasant symptoms; headache is perhaps most common and then come attacks of unconsciousness, convulsions may develop and coma and even death occur.

Is it dangerous to operate on this skull? I don't think so. It should be done under local

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anesthesia, and I think with every assurance that it will turn out well.

Will it be necessary to open the dura? That will depend a great deal on what we find. If the dura is bluish-white, pulsating, I believe I would leave it alone. If it is not the normal bluish-white in color, this means there is something under it. It is two weeks since the accident occurred, and when it did occur it is likely that there was not much extravasation of blood as he was symptom free. I think the best thing is to have the head opened and that piece of bone lifted up.

Question: When would it be advisable to operate?

Dr. Coughlin: I do not think there is any great hurry, it is not a case that calls for immediate operation, but I think it would be well to do it as soon as possible. Any time after five or six days I believe would be the favorable time.

As to the length of time he ought to be kept in bed, in any case of head injury severe enough to cause loss of consciousness even for a short time, and above all when it has been sufficiently severe to break the skull and very likely cause extravasation of blood, I believe the patient should be kept in bed at least four weeks. If the injury has been severe he ought to be kept in bed and not be sent back to work too soon. The individual may be anxious to go back to work, but these patients are not in condition to do so, for after a while the man will become irritable and finally have headache, and other serious complications may arise. They should be allowed to go back to work a little at a time, with the privilege of lying down a great deal. Give them some easy job for a while. Generally if an injury is very severe I say to the patient, do not do any work for a year. In a case of head injury, after all this pressure of foreign material has been removed, a long-time rest I am sure will benefit the patient.

As to the patient with trivial injury who a long time afterwards goes into coma. We may find an organized blood clot underneath the dura of the patient whom you least suspect, you perhaps never thought that such a trivial injury could cause a subdural hemorrhage, never supposed a hemorrhage of such magnitude could come about without more severe injury having occurred. Why such a patient becomes comatose is not known.

With regard to the removal of spinal fluid in brain injuries, there is not unanimity of opinion among neurological or general surgeons who do

that kind of work upon this point. A long time ago it was brought to our attention by Cushing that in patients with increased intracranial pressure due to sub-tentorial tumor sudden death occurred after spinal puncture. I think many of the rank and file of us now believe that the dangers due to spinal puncture are far less than those due to increased intracranial pressure. I have advised spinal puncture I do not know how many times in such cases and never with anything but good effect. If a patient has headache following a head injury and sometimes after operation on the brain, and is restless, as these patients so frequently become during afternoons, and at night, thrashing around and having an unpleasant time generally, I have seen the withdrawal of spinal fluid followed by the patient becoming normal and quietly going to sleep. But I would not advise this procedure unless there is some indication for it. Patients who after a fall become unconscious without any localizing or focalizing symptoms, often are punctured, sometimes as frequently as every twelve hours, and I have never seen this procedure do anything but good. But some men are strongly opposed to this measure, believing it to be bad practice and that it should be unhesitatingly condemned in all cases. If the hemorrhage is around the base and if a possibility exists that it is in the cerebellar fossa, there is always a possibility that the cerebellum might play the part of a ball valve, and in such cases I would be anxious to have the patient upside down if I were to do spinal puncture.

Therefore the apparently mild case we should nevertheless look upon as an important and serious one, not to be considered lightly at all. I think the operation itself should not be considered as serious, on the other hand it is far less dangerous than to allow the patient to go unoperated.

Question: Suppose the x-ray had not shown a fracture?

Dr. Coughlin: If the picture had not shown anything the matter with the skull, then I probably would have been quite satisfied to keep the patient at rest for less than three or four weeks.

Question: In the presence of restlessness in a case showing no sign of fracture, would you use spinal puncture?

Dr. Coughlin: I surely would do spinal puncture in order to find what effect it would have on the restlessness. I have been told many times by patients, and sometimes by doctors who have had the misfortune of sustaining a head injury, that they were greatly relieved after the spinal

puncture had been made. The relief experienced has been quite marked. If a patient becomes restless and the temperature goes up afternoons he is relieved by spinal puncture. I think it is better than morphin, which should be used only as a last resort. I have tried hyoscin in these cases, but often the patient is as wild after its administration as before.

CASE No. 2, presented by Dr. ———; Patient, male, age 38.

This man had always been well up to three years ago, then one day after strenuous exertion he felt severe palpitation of his heart and had some dyspnea. He has been troubled with this symptom ever since. Often it comes on in the evening after his work. At times he has been nervous, little things annoy him, he is irritable. He has no other symptoms.

(To patient) Have you lost any weight?

A. No.

Q. You weigh the same as you did three years ago?

A. Yes.

Q. What is your work?

A. General heavy labor.

He has had no tremor. I think he has some thyroid enlargement, more on the right than on the left side. He has never had sweating to any extent, he has not had any weak spells, the giving way of his knees. It is a question as to what is the matter with him. He has a blood pressure of 140 over 70, and my medical colleagues find no murmurs. His heart is irregular, not regularly irregular; I mean it does not miss a certain number of beats, but runs wild at certain times, very irregular. At 140 over 70 he has a pretty wide differential pressure, which does not mean thyroid disease, but weakness, tachycardia, and tremor he should have. I do not believe he has any tremor. He has not an auricular fibrillation, there is simply an irregularity. His basal metabolism was taken the first time, I believe, two weeks ago, when it was 25, and yesterday it was down to 10 and remained so to this time. The pulse runs an irregular course. I thought he had a nodule in the right lobe of the thyroid gland.

There seems to be in this case an intoxication which is causing the condition. There is no weakness. The basal rate is 25 to 10.

The question comes up, is he to be operated on or not? He has been three years seeking relief. He has been medicated and does not get

better. Has he tuberculosis? He has not lost any weight, and a man who has held his own for three years and has no weakness or loss of weight does not show tuberculosis. The basal rate, as stated, 25 to 10, the latter after two weeks of rest. I think he has not an enlarged thyroid according to the interpretation of what I feel.

I believe that this is the kind of case that tries one's surgical judgment a good deal. It is not a clean-cut case in which you can examine the patient and then say,—Here is the trouble. I do believe that this patient has a thyroid toxicosis. If I believe that, what will I do about it? It is not exophthalmic goiter. Shall we give him Lugol's solution? Well, he has had some Lugol's solution. Shall I give Lugol's solution to a man who does not have exophthalmic goiter? Some one said that this agent does not do good except in people with exophthalmic goiter. That is not so—it does good in some people who have not exophthalmic goiter. In our limited experience with Lugol's solution, if it is going to do any good it will do good inside of a week, and if it does not do good inside of a week I do not believe its use is indicated.

The patient was scheduled for operation and it was refused because of the condition of the heart. If I were going operate on this man I would do it under local, and I would not close the wound immediately, but wait two or three days, and then if the cardiac condition became worse I would reopen it. I have done that in men with cardiac thyroids. I think the anesthetic need not bother you, but go ahead and take out the thyroid gland and I believe you will be well pleased. I am strong for local anesthesia because I have had more experience with that than with general anesthesia. I have been doing thyroid work under local anesthesia for sixteen years. It is my custom to give $\frac{1}{8}$ gr. of morphin preliminary to the production of anesthesia and 1/200 gr. of hyoscin.

The old question is, is it a case of goiter? That is the thing that puzzles us. I confess I cannot answer the question. I think it would be a good idea to make an x-ray of the upper part of the chest because a man with no neck goiter may have an intrathoracic goiter. The focal infection should be cleared up first, that goes without saying. If he gets well by removal of the crowns and roots that have been left through neglect, and the diseased tonsils (in this case not very bad), then I would not go any farther. To do the goiter operation alone and leave those teeth, would, I believe, be bad surgery.

BRONCHIAL ASTHMA*

With Special Reference to Nasal Conditions

S. W. BARNETT, M.D., Cedar Falls

In presenting this paper for your consideration, it is not the idea of the essayist to present any new facts relating to bronchial asthma, but to review the literature and summarize the treatment of bronchial asthma, as viewed by the general practitioner.

Bronchial asthma has been one of the enemies of the medical profession since the early days of therapeutics. Until very recently, very little progress has been made in relieving our patients, except by the use of adrenalin and narcotics.

Some few years ago the medical world became alive with the idea of hypersensitiveness of certain patients to foreign proteins. These cases of allergy and anaphylaxis may arise from endogenous or exogenous substances. We all felt that when a case of asthma, hay fever, eczema, etc., came into our office, that all we needed to do was run a few skin or ophthalmic tests, determine the specific agent and desensitize our patient, thereby curing the asthma. It has dawned upon some of us that this is either not true or it is very difficult to determine the injurious agent. Many have given up the idea of skin tests and are resorting to the old method of symptomatic treatment.

Recently we have been encouraged by the report of many cases of bronchial asthma having been cured by correcting pathological conditions in the nasal and paranasal cavities. Many of these reports are astonishing in the high percentage of cures. It offers another avenue of escape.

Since the time of Valtolini, in 1871, it has been known that the removal of nasal polypi may cure asthma. Literature describes many cases. This resulted in many nasal operations. So many that the result became disappointing. Again the symptomatic treatment was resumed until in about 1910, when the anaphylaxis theory was born. Nasal surgery was forgotten. Now we find the pendulum swinging back into nasal surgery.

Asthma may arise from nasal conditions in four conceivable ways: (1) Direct infection, such as secretions dropping down the pharynx and larynx, during sleep. (2) Allergic response of the bronchial musculature to bacterial infection in the nose. (3) Obstruction to the proper passage of air, causing mouth breathing, and (4) by reflex action. All are associated with infection

or irritation. The pathology varies from nasal polypi, hypertrophied turbinates, sinusitis to a deviated septum.

During the past winter, I have come in contact with three cases, which I feel were due to nasal pathology. A married woman, twenty-seven years of age, clinically healthy, suffers from asthma only at the time she is having acute rhinitis. The attacks are so severe that narcotics must be used to afford relief. Adrenalin in ten minim doses was not seemingly effective. After two or three days of asthma, she is again comfortable. Mixed vaccines and skin tests have been used. Also she has tried living in various climates. The nose is seemingly normal, except for a slight deviation of the septum to the right, so that when the turbinates are swollen the right side of the nose becomes obstructed. After seeing the case in two attacks of asthma, the turbinates were shrunk with adrenalin. The asthma stopped at once. The next day packs of ordinary alkaline antiseptic were used, with the same result. This to me, must be a case of asthma, caused by either reflex or nasal obstruction. Unfortunately the case has not been observed since last winter, the patient having changed her residence.

October 23, 1927, a boy ten years of age, was brought to the office with the following complaints: hay fever, asthma, coughing at night, loss of weight and appetite. Duration since four years of age, being much worse during the summer months. Past history is negative, except for frequent colds. A tonsillectomy was performed four years ago. There is a family history of asthma. Physical examination was typical of a bronchial asthmatic. His weight was fifty-five pounds. Examination of the nose showed both nares full of secretion. He was referred to Dr. Grant for nasal treatment. Following the second treatment, there was much improvement, and after the sixth, the asthma had disappeared. He was free all winter, except at a time when he had an acute upper respiratory infection and aspirin was given, whereupon he developed an attack lasting thirty minutes. Aspirin was repeated. The attack reoccurred. Skin tests had been used two years before in a noteworthy clinic, and vaccines given, so these were not repeated. The boy was observed some weeks ago and is still in good condition, having gained eight pounds. It will be interesting to watch him throughout the summer.

An interesting case is now under observation. March 23, 1928, a woman twenty-six years old came in complaining of asthma, following a cold,

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which she had one year ago. Past and family history are negative. Examination revealed multiple polypi, in the nose, a chronic ethmoiditis and deviated septum. The chest was full of moist rales and typical of an asthmatic. There were signs of early cardiac decompensation. X-ray and sputum were negative. The urine was negative, B. P. 112/84. She was given tincture of digitalis until the signs of decompensation disappeared. Dr. Grant then removed the polypi and in forty-eight hours the asthma disappeared. Some three weeks later she developed an acute upper respiratory infection and the asthma returned. It was uncontrollable with adrenalin and ephedrine. She was taken to the hospital because of the severity of the asthma and after two weeks she improved somewhat. A bilateral middle turbinectomy was performed to obtain drainage from the ethmoids, the operative procedure stopping here because of the patient's condition. The asthma again improved for two weeks, during which time the ultra violet ray was used. An ethmoidectomy was performed by Dr. Grant and for two days the attacks were severe, after which the patient was very comfortable. July first, she suddenly developed a severe asthma which lasted since that time and seemingly is not relieved by ordinary medication. Morphine is used after the patient becomes so fatigued that she must have rest. The patient has nasal pathology, cardiac disease, chronic bronchitis and possibly some allergic sensitiveness. This case is of special interest because of the laboratory findings when she entered the hospital. The red corpuscles numbered, 6,482,000; the leucocytes 25,000; the differential were normal, hemoglobin 100 per cent. The sputum showed many eosinophils, Charcot-Leyden crystal and Curschmann's Spirals. Pneumococci were abundant being the only bacteria isolated. The urine was negative, except for a few hyaline and granular casts. About the tenth day in the hospital she developed severe pains in the lower right abdominal quadrant, with slight rigidity. Appendicitis was suspected, but operation was delayed. The urine became loaded with pus cells and a few red cells. The pyelitis cleared up promptly under the usual medication. When she left the hospital the blood count was 5,060,000, whites 14,000 and hemoglobin 90 per cent. This last case is cited to bring out one point, we are prone to travel in one line. Not all asthma is caused by nasal pathology. Bronchial asthma may be caused by: (1) a deficiency in calcium, as maintained by some authorities who recommend the use of calcium, combined with parathyroid or thy-

roid. (2) Cardiac and renal diseases in which event these conditions must be remedied. (3) Hypersensitiveness to various pollens or foreign substances. In this event skin tests must be used in determining the causative agent so the patient may be desensitized. (4) Systemic conditions as tuberculosis. (5) Chronic bronchitis, and (7) lastly, nasal pathology.

In reaching a diagnosis, we must include a complete physical examination, covering all the above and the treatment governed accordingly. The treatment during an attack is purely for relief and all drugs should be used sparingly, especially aspirin. Adrenalin in five to ten minim doses of 1/1000 solution, or ephedrine. Morphine in 1/6 to 1/4 grain doses should be used only when rest is imperative. Antipyrine in five to ten grain doses in well diluted solution is recommended by some. Benzol-benzoate in twenty to thirty minim doses every four hours is often used, and various inhalents, especially chloroform.

Following the acute attack an effort should be made to determine the cause. Beginning first with the possible foci of infection, with special attention to the nasal cavities. General physical examination will reveal any abnormalities to be corrected, such as cardiac, renal diseases, or other systemic conditions. The possibility of an allergic asthma must be considered. During the treatment the mercury lamp is often seemingly of some benefit. Autogenous vaccines are often of great benefit.

Dundas Grant of London, reports cures, or great relief, in 81.6 per cent by nasal surgery alone. The pathological findings varied from nasal polypi, sinusitis, hypertrophied turbinates, ethmoiditis, to a deviated septum.

W. S. Thacker, in the British Journal, reports many cures of bronchial asthma, by drainage of the maxillary sinuses.

F. L. Reese, in the Southwestern Medicine, reports many cases improved following the removal of polypi. He also appeals to the nasal surgeons to use conservative methods and cites cases in which he feels the asthma was caused by post-operative adhesions in the nose. The attacks having followed nasal operations.

In summarizing, we may say that bronchial asthma may be due to many causes and we have a tendency to try one line of observation and neglect the others. It is more frequently due to pathology in the region of the nose than was formerly supposed; the correction of which should be gradually and conservatively carried on, so that the after effects may not cause more damage

than the good caused thereby. Nasal polypi are frequently the causative agent, not necessarily because they indicate underlying sinus diseases, but because of the mechanical irritation. The greatest outstanding factor is the presence of false points of contact or actual adherence of tissue, frequently between the turbinates and septum. Asthma is sometimes caused by post-operative adhesions and temporary good results following nasal surgery can sometimes be explained by the formation of these adhesions.

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ACUTE APPENDICITIS COMPLICATING PREGNANCY*

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No complication of pregnancy is of greater importance than acute appendicitis and in no abdominal emergency is an early and accurate diagnosis more urgent for always two lives are at stake. This paper will first report five cases of acute appendicitis complicating pregnancy illustrating some of the types of cases encountered, four occurring in the first six months of gestation and one in the ninth month. The first four cases will be presented briefly, the one occurring in the ninth month will be reported in detail because of its rarity. Then a discussion of acute appendicitis during pregnancy will be given.

Case 1. Mrs. E. H., age twenty-five, ii-para, entered the hospital when two months pregnant. Six months before she had a mild acute appendiceal attack. Twenty-four hours before admission her attack began and it was typical of acute appendicitis. When admitted she had a temperature of 100, pulse of 120 and white count of 25,000. There was marked tenderness and rigidity at McBurney's point. The cervix was normal and there was no bleeding. The uterus was tender on pressure but no mass was felt in the adenexal region. A catheterized specimen of urine was normal. At operation the peritoneal cavity contained cloudy fluid. The appendix was covered

by the omentum and the tip was gangrenous and a perforation was present. The appendix was removed and drainage established. The patient's recovery was uneventful.

Case 2. Mrs. G. L., age twenty-three, i-para, had one acute attack of appendicitis eight months before. Thirty-six hours before admission, when six months pregnant, she began to have colicky pain across the lower abdomen and she vomited several times. Her physician suspected an abortion and morphine was given. A few hours later the pain localized in her right side. When admitted her temperature was 98, pulse 110 and white count 18,000. Her right lower quadrant was very rigid and tender. The cervix was normal and there was no bleeding and no adenexal mass. Through a high right rectus incision the cecum was found displaced upward and the omentum was adherent about a gangrenous appendix. A small abscess was present. The appendix was removed and a drain introduced. Morphine was given but the patient aborted sixteen hours later. Labor was short and almost painless and the third stage was spontaneous. The patient made an uneventful recovery.

Case 3. Mrs. D. C., age thirty-two, iii-para, was five months pregnant when admitted to the hospital. She had one appendiceal attack four years before. Forty-eight hours before admission she began to have slight periodic lower abdominal pain but no vomiting. When seen by her physician twenty-four hours later she had lower abdominal tenderness, normal urine and a leucocyte count of 13,000. Her temperature was 99 and pulse 100. Through a lateral rectus incision the cecum was found low in the pelvis. The appendix was gangrenous and perforated and was adherent to the right ovary by fibrinous exudate, the ovary being acutely inflamed. Free pus was present. The appendix was removed and drainage established but the patient aborted six hours later. Her convalescence was uneventful for two weeks, she then developed an acute right pyelitis which soon subsided.

Case 4. Mrs. W. H., age twenty-eight, i-para, was four and one-half months pregnant when her attack began. She gave a history of three previous attacks of acute appendicitis. Thirty-eight hours before admission she became ill with severe epigastric pain and vomiting, her pain later localizing high in her right side and she had three chills each lasting about ten minutes. When she entered the hospital one hour after a chill her fever was 103, pulse 120 and leucocyte count 17,000. A catheterized specimen of urine contained one plus albumen and many red cells and pus cells. Her lips and tongue were dry and she appeared septic. There was slight tenderness and rigidity in her right iliac quadrant. The cervix was normal and there was no bleeding. Because of the patient's poor condition and as her inflammation seemed to be subsiding operation was delayed and her condition watched. She had no more chills, the next day her temperature was 100

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and her leucocyte count 12,000. She continued to improve, the urine became normal and one week later a laparotomy was performed. The cecum was displaced upward and to the right. The appendix was enlarged and was adherent to the lateral cecal wall by old and recent adhesions. A definite obstruction was present in its middle third. The appendix was removed and the abdominal wall closed. No uterine contractions or bleeding occurred and her recovery was uneventful.

Case 5. Acute appendicitis in the ninth month. Mrs. L. G., age twenty-five, i-para, had a negative past history except for two abdominal attacks which were probably acute appendicitis, occurring four years and two years before. For eight weeks before her present illness she had complained of severe backache and pain in her lower abdomen. On Wednesday night when eight and one-half months pregnant the patient rode fifty miles in a car, at eleven o'clock she ate a heavy lunch and returned home. About six o'clock Thursday morning she began to have colicky general abdominal pain. She vomited frequently all day and her bowels moved normally.

When seen at her home twelve miles distant Thursday night the pain had localized in her lower abdomen, being more severe on the right side just above the inguinal ligament. She had no rigidity but there was slight tenderness in each lower quadrant. The pain was very severe, was periodic, the spasms recurring every three to five minutes. Uterine contractions could be felt and fetal movements were very active and painful. Between her pains she was quite comfortable. The cervix was soft and somewhat effaced and dilated but there was no bleeding. She was given one-fourth grain of morphine hypodermically and one hour later one-sixth grain with only partial relief. A catheterized specimen of urine was normal. A white count was not made as a pipette was not available. From Thursday night until Saturday the pain was dull but not severe, she did not vomit and her abdomen was only moderately tender. Saturday morning she was seen again, her pain was more severe and was dull and not spasmodic. Her condition was good, her temperature was 98, pulse 72 and leucocyte count 15,000, 80 per cent being polymorphonuclears. There was moderate tenderness but no rigidity in her right lower quadrant. The cervix was not changed since the first examination but she was tender to the right of the uterus.

Saturday night (sixty hours after onset) a laparotomy was performed. The peritoneum was congested and dull but there was no free fluid. The omentum was high in the abdomen. The uterus was very large but the cecum was not elevated and the appendix was adherent to the left, the tip reaching almost to the spine. Much fibrinous exudate was present and the appendix was large and very black and dry in its entire length. No perforation was present. The base of the cecum was edematous. The appendix was freed and removed but the stump could

not be inverted because of its inaccessibility. The technical difficulties were great because of the size of the uterus and the position of the appendix. Cigarette drains were placed down to the base of the cecum and into the pelvis and were brought out through a stab wound.

Sunday her condition was fair, her temperature was 100 and pulse 110, she vomited very little and drainage was scant. Liberal doses of morphine were given. Monday morning she had considerable upper abdominal distention, her fever was 100 and pulse 110. By ten-thirty labor pains began and she was delivered an hour later. The labor was easy and fairly painless, the uterus was not manipulated and the third stage was spontaneous. By Monday night her temperature was elevated to 102 and her pulse was 120 but her distention was less and she was expelling gas. Early Tuesday morning she began to vomit, the upper abdomen was distended, there was moderate serous drainage from her wound and her temperature was 103. Gastric lavage by a duodenal tube relieved her vomiting and distention. That night her fever was 104 and her pulse 140. She died at two o'clock Wednesday morning. The baby weighed six and one-half pounds and died thirty-six hours after birth.

The important symptoms and findings in this case were: Colicky upper abdominal pain, the pain later localizing in the lower abdomen, becoming spasmodic and very severe, uterine contractions and painful fetal movements, beginning cervical dilatation and effacement, slight tenderness but no rigidity, and normal temperature and pulse. The symptoms suggested an acute gastric disturbance with the premature onset of labor. The patient was reported as being much improved the second day and a correct diagnosis was not made until a peritonitis had developed. Labor thirty-six hours after operation in an already tired and sick patient resulted in a virulent blood stream infection. A classic Caesarian section followed by removal of the appendix and establishing of drainage might have resulted in a more favorable outcome. That procedure would be carried out if such a case were seen at the present.

The Anatomy and Pathology of the Appendix During Pregnancy—The appendix is often a pelvic organ in women lying in close proximity to the right adnexa and frequently undergoing the same inflammations as those organs. A decidual reaction has occurred in the appendix and endometrial implants have been found in its wall. A consideration of the changes taking place in the appendix during pregnancy explains many of the reasons for acute inflammation of that organ. As gestation progresses the cecum and appendix are displaced to the right and upward by the enlarging uterus. If adhesions have bound down

the appendix and prevent it from moving the pressure and traction resulting markedly interfere with its circulation and drainage and inflammation readily occurs.

Marked vascularity incident to pregnancy makes the progress of the inflammation rapid and gangrene and perforation quickly result. Localization of the process is poor or does not take place. The uterine wall is frequently directly involved, it becomes inflamed and uterine contractions occur, markedly aggravating the inflammation. If an abscess forms the uterus is often a part of its wall and a sudden contraction of the uterus tears open the abscess permitting a rapid dissemination of the infection. Thrombosis and phlebitis are common and suppuration takes place high in the abdomen where peritoneal resistance is less.

Frequency—Primary appendicitis seems not to occur more frequently in pregnant than non-pregnant women. Recurrent attacks are common and most cases are of this type. Only the attacks of severity are usually recognized. Findley in 1912 reported fifteen cases of appendicitis complicating gestation, fourteen of which were recurrent. Wilson in 1927 reported six acute cases only one of which was primary. Felkner in a report of 3,800 pregnant women found that appendiceal symptoms occurred in all showing previous appendiceal attacks. Acute cases occur more frequently from the third to the sixth months, 80 per cent of all cases occurring in the first six months. Cases occurring in the last few weeks of pregnancy are rare. DeLee in thirty years saw only four cases, three of which were seen in consultation.

Symptoms—Many cases of acute appendicitis complicating pregnancy have symptoms identical with the attacks occurring in non-pregnant patients. If the symptoms and findings are typical a correct diagnosis is easily made. Such attacks are usually seen only in the early months of gestation. A leucocytosis to 12,000 is of no value as it is common in pregnancy. A polymorphonuclears count is often helpful. In the latter months the symptoms and findings are often obscure and misleading. Fetal movements are active and rhythmic uterine contractions are increased in frequency and intensity. The cervix may be partially dilated and effaced and a show of blood or mucus may occur. Abdominal tenderness and rigidity are usually less marked and not well localized. It is important for the examiner to consider appendicitis as the possible cause, no matter what the symptoms or findings may be, for only by considering it can it be ruled out.

Diagnosis—The most important consideration in each pregnancy with some complication is to make the diagnosis. The first question to be answered is, whether the complication is incidental or accidental to gestation. Complications incidental to pregnancy. Ectopic gestation. The case may be one of ectopic gestation alone or one may have an ectopic complicated by appendicitis. Symptoms and findings of the former are well known. Early operation is required in either case and an error in diagnosis is not serious. Heineck reports twenty-one cases of ectopic gestation complicated by acute appendicitis. Premature labor or abortion. One often suspects such a complication when appendicitis exists as the patient may have uterine contractions, periodic pain and even some cervical change. A slight rise in temperature and vomiting may be considered due to impending labor. Morphine is often given to stop uterine contractions, thus masking all symptoms. Abruptic placenta. The diagnostic features of this complication are well known and characteristic symptoms soon make the diagnosis clear. Eclamptic toxemia. This toxemia may begin with epigastric pain and vomiting but the subsequent course of events usually makes the diagnosis apparent. Torsion and rupture of the uterus may occur but are rare and differentiation is easily made.

Diseases accidental to pregnancy: Acute pyeloureteritis. Pyelitis is a common complication of pregnancy. The patient may have right sided pain, tenderness, fever, chills and leucocytosis several hours before the urine shows pus and bacteria. A negative catheterized bladder specimen does not exclude pyelitis as the ureter may be blocked. In case of doubt it is advisable to catheterize the ureter. The white count is usually high. Ureteral kink or stone may complicate pregnancy. The pain is severe and colicky and the fever and leucocyte count are usually low. The urine is often normal but may contain pus and red cells. The pedicle of an ovarian cyst in the early months of pregnancy may become twisted and cause acute symptoms simulating appendicitis. Other less common complications such as acute cholecystitis, acute salpingitis and intestinal obstruction may occur but can usually be differentiated. Acute pancreatitis, diverticulitis and mesenteric thrombosis are other very rare complications.

Prognosis—The prognosis in acute appendicitis is good in early pregnancy if early operation is performed. In the latter months it is serious for both mother and child, but the seriousness depends, as in all cases of acute appendicitis, on

how soon after onset the patient is operated upon. If operation takes place before perforation and peritonitis have developed the prognosis is good at all periods of gestation. If the appendix has ruptured the mortality is about 40 per cent in the first six months and 60 per cent in the last three months. If abortion occurs the percentage is raised about 10 per cent in each instance. Fairbairn reports seventy-four perforated cases with a maternal mortality of about 50 per cent. If early operation is done abortion rarely occurs. If perforation has occurred approximately 40 per cent of the cases will abort in the first six months and in the last trimester with perforation in from 80 to 90 per cent premature labor will result.

Treatment—The treatment of acute appendicitis during pregnancy is always surgical but because of the different problems encountered in the various periods of gestation these periods are best considered separately. Acute appendicitis in the first five months of pregnancy does not necessitate any change in the usual type of treatment. Early operation is important and in case of doubt it is best to operate, according to DeLee. Any pregnant woman that has had previous acute appendiceal attacks, if seen early in her pregnancy, should have her appendix removed as a preventive against an acute attack late in her pregnancy. Under such conditions abortion will rarely occur. Handling of the uterus should be avoided as much as possible and if possible the appendix should be removed. If an extensive general peritonitis exists and the condition of the patient is grave, drainage only is indicated. After operation the patient should be kept well under the effect of morphine for several days.

During the sixth and seventh months more drastic treatment is often required but each case must be considered separately. The amount of pathology and the accessibility of the appendix are the chief factors which govern the type of treatment. In each case the incision must be higher and more lateral and drainage must be used if indicated. The question of emptying the uterus does not arise during the sixth month but may in the seventh.

During the eighth and ninth months most problems are encountered. The problem then ceases to be solely a surgical one but also becomes one of an obstetrical nature. Certain plans arise which have to be considered in each case. The type of treatment here advocated represents the consensus of opinion of most recent writers.

The first question is, shall the pregnancy be terminated? If the inflammation is limited to the appendix and no peritonitis exists the only

indication is to remove the appendix, close the abdomen and give liberal doses of morphine to prevent labor. If labor does occur no harm is done if the abdomen has been closed securely. If perforation and peritonitis exist drainage is always necessary and rarely can the pregnancy be saved. This point is important in deciding the type of treatment. If labor does follow within a few days the results are almost always disastrous. Adhesions are torn, drains displaced, infection spreads quickly to the entire peritoneum and a blood stream infection often follows. The labor itself further exhausts an already tired and sick patient. The baby is usually toxic and rarely survives.

If peritonitis does exist and the condition is seldom diagnosed before it does occur, the problem then is, what method of emptying the uterus shall be used? Vaginal Caesarean and induction of labor by bags are both obsolete procedures. Several types of abdominal operation are available and there seems to be fairly definite indications for each. A classic Caesarian section is the simplest method and is the operation best understood and unless the peritonitis is too extensive results are good. A few years ago it was taught that it was dangerous to open the uterus in the presence of infection but if the peritonitis is not too extensive and the uterine wall is healthy the uterus may be closed and a favorable result expected.

If an extensive and severe peritonitis exists and the uterine wall is involved a Porro Caesarean should be done; the uterus is opened as in a classic section, the fetus is delivered and the uterus is removed as in a supra vaginal hysterectomy. Vaginal drainage is then established. This procedure by removing the infected tissue offers the best chance of recovery. A low extra peritoneal or cervical section may be done if the patient has been in labor long enough to thin out the lower uterine segment and draw up the bladder. Such cases however are rarely met. After any of the operations have been completed the appendix is removed and free drainage established, a stab wound being preferable. If labor is in progress and delivery imminent the birth must be from below and must be followed at once by a laparotomy.

SUMMARY OF TREATMENT IN THE EIGHTH AND NINTH MONTHS

1. If no peritonitis exists remove the appendix and close the abdomen.
2. If peritonitis is limited and the uterine wall healthy, wall off the appendix, do a classic sec-

tion, close the uterus, remove the appendix and establish drainage.

3. If peritonitis is extensive do a Porro Caesarean or cervical section, remove the appendix and drain vaginally.

Discussion

Dr. William E. Brown, Cedar Rapids—This is a timely paper and might well serve further to advance the interests of the gravida during her prenatal state. It would behoove us therefore to take note of every right-sided pain, recognizing all neurotic tendencies the patient may have and appreciating also the difficulty of making diagnosis in a case of right-sided pain. We should therefore take special pains to make a diagnosis and be on our guard against this fatal condition that develops as a complication of pregnancy. We recognize the difficulties of making differential diagnosis, and it would be well therefore to relegate our pride to the background and call in the most competent consultant we might procure. This gravida who is about to perform this beautiful function is entitled to the best that we can give her. We may see what the advantages of an early diagnosis are. In the first twenty weeks prompt surgery is certainly indicated; the thing is to recognize the condition and then to go in boldly, because while appendicitis may not yet be present we are not likely to do any harm by going in, and if pain persists with the vomiting of pregnancy which might also be present, still you would be perfectly justified in going into the abdomen in the first few weeks. The rarity of this condition is evidence. If I may be pardoned for referring to my own personal observation, I would say that in 3,000 normal deliveries I have recognized but one case of appendicitis. That case occurred during the puerperal state and it was quite typical. This woman in less than twenty-four hours after delivery developed a chill and all the symptoms of an appendiceal abscess, and then, after about twelve hours of observation during which time she was most profoundly in shock, I found a surgeon who was bold enough to go into the abdomen and establish free and adequate drainage, and the patient recovered. She had a stormy convalescence and drained for six weeks. In that case surgical interference was effected quickly, and the appendix was not removed. After making a stab wound in the right iliac fossa and instituting free and adequate drainage, the symptoms gradually abated and the patient recovered. In recalling this instance I would say that the patient had some pain about three or four hours before the onset of labor, with some vomiting, but DeLee and Bannister and many other authorities state that while this preliminary pain may be mistaken for evidence of onset of labor, yet we must be on the lookout for the complication of appendicitis. This

woman had those preliminary symptoms and then in a few hours went into labor and during the pain and stress of labor the appendiceal abscess ruptured and a few hours later caused these alarming symptoms. I believe we are too conservative as to surgery in the puerperal state. There is no doubt but that many cases diagnosed as puerperal sepsis are in fact appendiceal abscess ruptured during labor, and in many cases diagnosed as puerperal sepsis I believe that life could be saved by proper surgical interference. While I have not seen many cases of puerperal sepsis, I recall three. We all realize the difficulty of making the diagnosis, and our leucocyte count is not so reliable unless following labor it suddenly shoots up. A chill does not mean so very much, but fever of course does. The three cases referred to resulted in death due to puerperal sepsis. Each case came on about eight to ten hours after delivery. This would be somewhat contradictory to puerperal sepsis, and I believe these three women who succumbed were really victims of a ruptured appendiceal abscess and perhaps there may have been a ruptured tube and salpingitis. Therefore it would seem that in some cases we are too conservative in surgical procedure. Suppose in a given case there has been a diagnosis of puerperal sepsis, this may be two, three, or perhaps five days, which would be quite right for puerperal sepsis, then you are giving a bad prognosis; therefore why not resort to surgical interference? If you say the prognosis is bad, the patient is going to die, why not do a little surgery right then, which, if properly performed, may save the woman's life? This paper is of great value in reminding us that we should be on our guard during the prenatal period to recognize every pain the woman may have on the right side, because we may thereby forestall this thing which later would mean maternal as well as fetal death. If that pain persists I believe surgery should be instituted, when there could be no criticism in regard to the case.

Dr. Downing (closing)—Abortion and pyelitis are probably the only complications of pregnancy more common than acute appendicitis, and neither is so serious for the mother as an appendiceal inflammation. Each pregnancy complicated by acute appendicitis is an emergency and delay is usually dangerous. Progress of the disease is rapid and an early diagnosis and operation is imperative. Most attacks are recurrent and the patient's history should be carefully elicited. The diagnosis in the latter months is always difficult, as typical symptoms and findings are rarely present. If the pregnancy happens to be already complicated by some inflammation such as a pyelitis, the differential diagnosis becomes even more difficult. No matter how atypical the symptoms or findings, one should always consider that appendicitis may be the complication present.

CASE REPORT

PREGNANCY COMPLICATING HYPER- THYROIDISM, WITH REPORT OF A CASE*

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The clinical implications arising from a combination of exophthalmic goiter, or Graves' disease, and pregnancy in the same individual are noteworthy, but this is relatively rare as compared with the other thyroid disturbances, probably due to the restraining influence which Graves' disease exerts upon conception, comparatively few have been reported from the larger obstetrical centers. The problem is important and often difficult, for upon its solution depends the life both of the patient and offspring.

The apparent association of the thyroid and the sexual apparatus is well shown, by "the increased size of the thyroid often observed at puberty; the thyroid disturbance at the time of the menopause; the frequent swelling of the gland during menstrual periods, pregnancy and lactation; the thyroid hypertrophy seen in animals after experimental castration; the influence of sexual activity upon the thyroid, with the occasional onset of Graves' disease as a result of sexual excesses; the rare onset of hyperthyroidism after oophorectomy".

Crotti, in an extended review of the subject of goiter and pregnancy, states that the coincidence of pregnancy with exophthalmic goiter is unusual, and the observation has been made that it is much rarer in hospital than in private practice. In the Seitz collection of 112 cases of exophthalmic goiter there was no change in 40 per cent of the cases, a small number showed improvement, but on the other hand, 60 per cent were made distinctly worse by gestation. Seven patients died; in five therapeutic abortion was performed, and in eleven premature labor occurred. In seven thyroidectomy was performed during pregnancy.

Theilhaber also found that the majority of cases of Graves' disease with pregnancy were made distinctly worse. This same conclusion was reached by Kleinwachter and Hirst, who claim that it predisposes to uterine hemorrhage and may result in the death of the fetus. Miscarriages were of considerable frequency. Mussey and

others, of the Mayo Clinic, in a report of over five thousand cases of Graves' disease from January 1, 1916 to January 1, 1926, state that thirty-two of these were pregnant. None died under their observation.

Twenty-three were delivered at term, and all but two babies were alive and normal at birth.

Two aborted, one at the sixth week, one at three months and seventeen days after ligation.

Two delivered prematurely, one at six and one-half months (acutely ill with pyelonephritis) ligation three months previously. The other at six months, one month after ligation.

Two were under observation.

Three had not been traced.

Seven had thyroidectomy.

Three were carried through on medicine.

They were of the opinion that pregnancy influenced the course of exophthalmic goiter very little, as it is a disease that fluctuates considerably in intensity.

Bram has brought out two important points about parturition in the subjects of Graves' disease: first, the straining with each pain adds undue strain to an already damaged and overworked heart, as well as increasing the size and vascularity of the thyroid gland; second, coagulation time in Graves' disease is delayed, in some instances to such an extent that the patient should be managed with the same degree of caution as a subject of hemophilia.

As exophthalmic goiter and pregnancy are associated with an increase in the basal metabolic rate, which is a valuable aid to diagnosis and progress in the treatment of Graves' disease, it is important to know what the metabolic rate is, of a normal pregnancy. Sanford and Wheeler have shown that there is a rapid increase that occurs in the last three months of pregnancy, from 20 to 25 per cent above the Du Bois standard, but in the early months, the rate is not increased. Therefore, a rate of plus 25 or even plus 30 in the later months of pregnancy is not an indication of hyperthyroidism. You would expect a considerably higher rate in exophthalmic goiter.

I am reporting this case of exophthalmic goiter complicated by pregnancy, because it presents several phases of thyroid hazards in women, namely, adolescence, menstruation, infection and pregnancy, as well as the treatment of this serious complication, and at a later date I wish to report the influence on the child, as well as the period of lactation in the mother.

Mrs. E. C., first seen by me in August, 1927. Age twenty-eight. Married twelve years. Has had no children and has used no contraceptives,

*Presented before the Austin Flint-Cedar Valley Medical Society, Mason City, Iowa, July 10-11, 1928.

but has had two miscarriages within the past two years, the first at three months and the second at two months. Gives a family history of goiter, in her mother and two sisters. She gave the cardinal symptoms of exophthalmic goiter, with sudden onset after acute tonsillitis about two years before, with enlargement of the neck (which she says has always been enlarged to some degree), nervousness, shortness of breath, palpitation, loss of weight, from 195 to 128, excessive perspiration, intolerance to heat, ravenous appetite and loss in strength. Her symptoms were greatly aggravated, following the death of her mother on June 5, 1927, showing that infection and nervous strain influence this type of goiter. It is not unusual for a case of Graves' disease to give a definite date for the onset of symptoms.

The physical findings in August, 1927, were those of a typical exophthalmic goiter, with moist skin, moderate exophthalmos, fine tremors, symmetrical hard granular enlargement of the thyroid, with bruits and thrills at both superior and inferior poles, slight enlargement of the heart, with systolic murmurs over base and mitral areas. Thyroidectomy was advised, but we were unable to convince her of its necessity, as is usually the case.

She next came to me on May 1st of this year, in acute thyroid crisis. The tongue was dry, the appearance was that of rather exaggerated hyperthyroidism, with vomiting and diarrhea. The pulse was 180 and regular, and the blood-pressure was 200/86. The hands were warm and moist. Her last menstrual period was in November, 1927, and she first felt life about April 25. The uterus extended to the umbilicus and fetal heart tones were 38 to 15 seconds. Red blood count was 4,200,000 and white cells 15,900. Wassermann was negative. She was placed in the hospital and given a dram of Lugol's at once, followed by ten minims three times a day. She improved quite remarkably, pulse gradually came down to 104, and blood-pressure to 140/80. When the patient reached this stage she did not make a very decided improvement, except a continuous gain in weight, from 145 to 158, with an increasing basal rate from plus 68 to plus 77, readings being made on May 5th and 16th respectively. I concluded that operation offered a better chance for both the patient and the baby, as the dangers of still birth, premature labor and post partum hemorrhage were greater than the danger of abortion following operation.

On May 18th a partial thyroidectomy was done, removing 70 grams of thyroid and leaving an amount equal to one-fifth or one-sixth of a nor-

mal sized gland. Recovery was uneventful, and she left the hospital on May 30th, pulse 96 and the pregnancy apparently unharmed.

On June 26th her weight was 185, blood-pressure 148/80, pulse 96. Basal metabolism plus 27. Uterus gradually enlarging, with fetal heart tones 38 to the quarter. She remains under close observation. What will happen during the lactation period will have to be carried out as conditions or complications arise. Some authors advise nursing the baby only two or three weeks, but I shall be governed by the condition of the mother.

The fact that this patient was married ten years before becoming pregnant shows an endocrine imbalance, probably hypothyroidism following adolescent goiter. Then, shortly after an attack of acute tonsillitis, she began having toxic symptoms and soon became pregnant on two different occasions, and miscarried, showing a predisposition for miscarriages in Graves' disease, and finally the exaggeration of the disease at the fourth or fifth month of pregnancy. The patient improved under Lugol's to a certain point, showing the limits for the use of iodine in the treatment of goiter. In some clinics 25 per cent of the toxic adenomas were made so by the indiscriminate use of iodine. In Detroit, between 1925 and 1926 the death rate from toxic goiter jumped from 47 to 122, probably due to the indiscriminate use of iodine. However, the use of iodized salt began late in 1924, but it is believed we get no ill results from the use of iodized salt, as it contains only the amount of iodine which the salt contained before purification, and the continuation of its use may aid in prevention of goiter.

Treatment in these cases depends on the severity of the disease, the stage of pregnancy, and the condition of the patient.

In the less severe cases conservative treatment is the treatment of choice, with rest in bed and the use of iodine, under close medical supervision.

In the severer cases, as the one reported, where the general condition of the patient permits, surgical procedure is the one of choice. If one has to lose one or the other, it is better to save the mother. However, it has been my experience that thyroidectomy itself does not produce abortion, but it is the rapid change in the metabolism and glands of internal secretion, because abortions do not usually occur until some weeks following operation. Laparotomies have been done at various stages of pregnancy, with no untoward results, and if abortion does occur, it is usually soon after operation.

Various writers differ in their treatment of exophthalmic goiter complicated by pregnancy.

The older writers, before the introduction of iodine, carried the patients along until symptoms became severe, and then emptied the uterus, if the fetus was not viable, and performed Caesarean section if viable. Crotti believes in watchful waiting early, and surgical intervention in the serious cases. Brown prefers medical treatment. Since the beginning of the treatment of exophthalmic goiter preoperatively, with rest and Lugol's solution, it is no longer necessary to perform preliminary ligations. In very severe cases, where the outcome of surgical intervention is doubtful, the injection of a small amount of boiling water into the gland should be made, and if a very severe reaction results, operation should be postponed until such time as little or no reaction occurs.

It is my opinion that in the very near future operation will no longer be necessary for the

treatment of these cases, but the removal of foci of infection early, and the care of adolescence and administration of iodine to the pregnant woman routinely, will greatly, if not completely, reduce the incidence of goiter.

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STATE HEALTH COMMISSIONER'S PAGE

 Henry Albert, M.D. 

PREVALENCE OF COMMUNICABLE DISEASES

INFLUENZA

Influenza is still the most prevalent communicable disease in the state unless we except the common colds. Although the peak of the pandemic wave in Iowa was passed several weeks ago, cases are still developing and in some isolated places the epidemic is just making its appearance.

In the smaller communities the epidemic usually runs its course in three or four weeks; in the larger cities, which, in a way are made up of many smaller communities, it takes a little longer, that is, from five to ten weeks.

Whether or not there will be a secondary wave of the disease during the latter portion of the winter, as has been especially referred to by the U. S. Public Health Service, remains to be seen. At any rate it is well that there be no relaxation of reasonable efforts to prevent the spread of respiratory diseases. The education which the public has received regarding the use of the handkerchief when coughing and sneezing and washing the hands before eating, has no doubt done

considerable to ameliorate the severity of the recent epidemic and should continue to be of value for all other diseases spread in that manner.

PNEUMONIA

As was to be expected, there has been an increase in both the mortality and morbidity rate of this disease during the past month. We have not yet learned as to the predominating micro-organism causing the pneumonia which accompanied or complicated cases of influenza. Pneumococcal pneumonia usually reaches its highest point in March as will be noticed from the chart published in last month's Journal. The case and death rate from this disease is five times as high during the first three months of the year as it is in summer time.

An antipneumococcal serum placed on the market by Lederle during the past few weeks, appears to be more efficacious than any similar serum heretofore available. The serum is designed to combat types I and II pneumococcal infections. Since these represent about one-half of all cases of pneumococcal pneumonia, it may be worth while to use the serum without previous

typing of the organism. The serum is rather expensive—the cost per patient ranging from \$60 to \$100. It comes in syringe packages containing 10,000 units. From four to seven packages are recommended for each patient. Present price per package is \$15. The Department does not handle it. It may however be obtained from Denny Brann, druggist, 421 Sixth avenue, Des Moines, or from other Lederle agents.

SMALLPOX

Smallpox continues to be reported chiefly from the central portions of the state. It is apparently most prevalent in Fort Dodge and other portions of Webster county. It is of mild form. The public has yet to appreciate the value of vaccination. Would it not be well for every physician to inform parents when the child attains the age of one year—that this is the time for vaccination against smallpox.

Chickenpox is also prevalent in the state. Confusion in differential diagnosis still exists in some places.

DIPHTHERIA

Diphtheria is still altogether too prevalent. The program of immunizing all children with toxin-antitoxin is making steady but rather too slow progress. Some physicians still seem to be concerned about reactions. There are no reactions of serious import—either immediate or prospective, that is after the subsequent use of serum.

All danger of sensitizing persons against horse serum has been eliminated in connection with the material (Squibbs) supplied through the State Department of Health since the antitoxin used in making the toxin-antitoxin mixture is made from sheep serum. Certain other manufacturers use goat serum.

The following answers by Park to certain inquiries regarding the kind of syringe and needle and method of sterilizing same may be of interest to the profession in general:

1. We usually use a 2 c.c. record syringe. The 10 c.c. looks so large that it is apt to frighten the patient and it is not quite as easy to use. For the tests we use a one-quarter inch length needle. Some prefer one-half inch. The needle should be of 26 gauge, and should have a short bevel.

2. The syringe and needle is sterilized by boiling. When giving toxin-antitoxin to a number of children, we do not sterilize the syringe each time by boiling but either change the needle for a new one which has been boiled or dip the needle in alcohol and wipe it with alcohol. In

hundreds of thousands of cases no difference in value between the two methods has been noticed.

SCARLET FEVER

This disease is very prevalent in many parts of the state. It is so mild that in many cases, physicians are not called to see the cases. Many cases are accordingly not quarantined. The disease is spread chiefly by mild unrecognized cases and carriers.

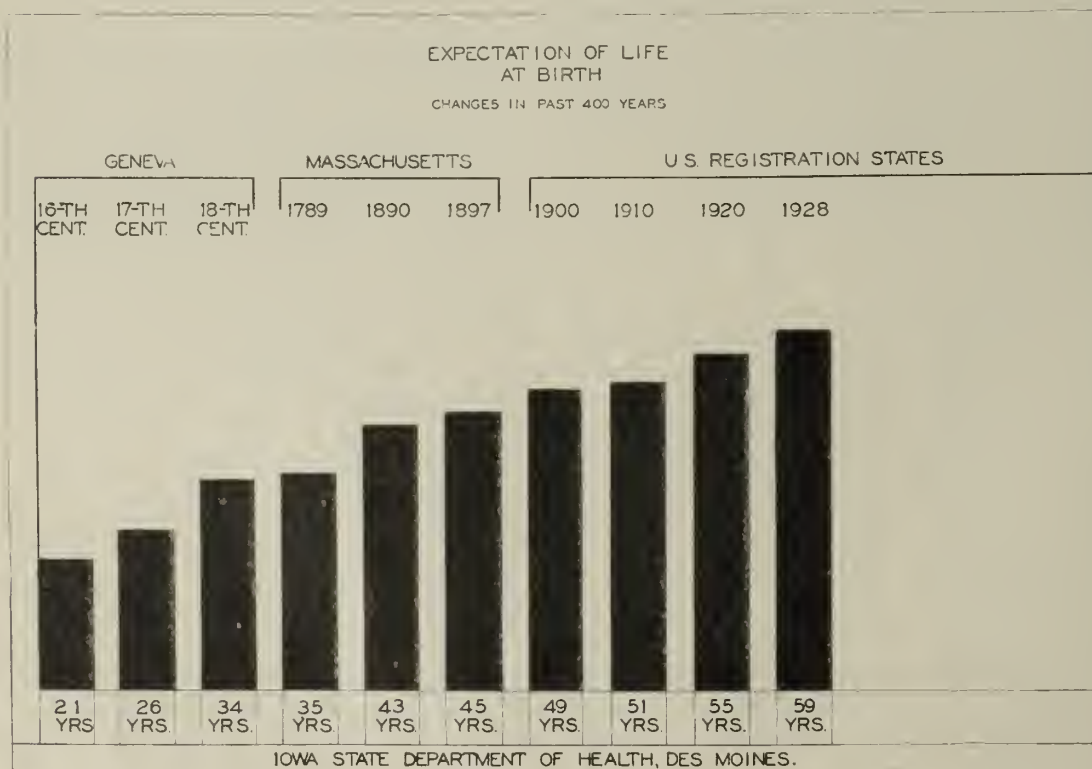
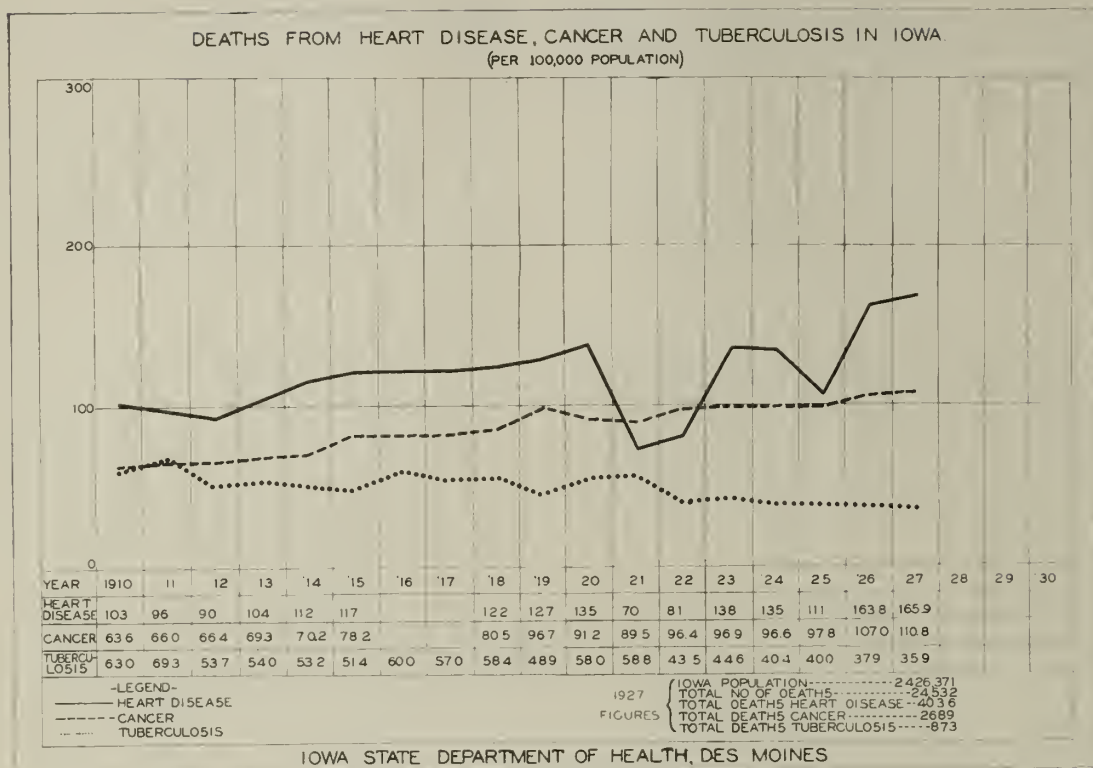
We believe that a somewhat more general use of anti-scarlet fever streptococcic toxin for immunizing exposed or probably exposed cases is warranted. One dose will do some good. At least three doses should be given. This applies to both the straight toxin or a recinoleated preparation which has enough free toxin to be of value. We prefer the former since it is better standardized. We advise against the use of the so-called "prophylactic" dose of scarlet fever streptococcic antitoxin for prevention. The resulting immunity is of too short duration—only about ten days to several weeks. It is better to reserve the use of antitoxin for curative purposes. Some physicians use the antitoxin in all cases—others, in only the more severe—representing about one-half of all cases. It should always be at hand in case of scarlet fever.

WHOOPIING COUGH

Whooping cough prevails in moderate numbers in a number of places. Seasonally this disease usually reaches its height in March and April. We may accordingly expect an increase during the next few months. Immunization with a vaccine made from the causative agent (*Bacillus pertussis*) is attended by only moderate success. It would appear worth while to administer it to children who have not had whooping cough—whenever the disease has gained a foothold in the community. Even if not successful in preventing the disease it appears to render the course of the disease less severe.

HEALTH PROPAGANDA AT FAIRS

This is the time of year when the "fair" associations let out concessions for various commercial exhibits, etc. During the past few years, a number of persons representing various kinds of "health" fads or special forms of treatment have obtained concessions at various county and district fairs in the state. The concessions usually consist of lectures or demonstrations with the idea of selling a book or some form of apparatus. It is of course well known to physicians that all



such faddists do much more harm than good. We shall, within the next ten days, write to the secretary of all county and district fairs urging them to consult the president or secretary of the county medical society with the idea of submitting to the society for approval, the application for concessions, of all persons or organizations representing "health" or "treatment" propaganda. Such persons should be asked to submit all books and other literature which they expect to sell or otherwise distribute as well as all devices which they will exhibit. Many innocent looking books contain much misleading and harmful material couched in terms that make them appear to have the backing of scientific authority.

THE CAMPAIGN AGAINST CANCER

The State Medical Society is undertaking a most commendable piece of work in connection with its campaign against cancer. The chairman, Dr. William Jepson of Sioux City, working with the council of the State Medical Society, has arranged for a speaker's bureau consisting of physicians who are addressing various medical societies on the subject. We are informed that it is planned to eventually also reach lay audiences.

The death rate from "cancer" has been steadily increasing for a number of years. It is now the second highest cause of death in Iowa—being exceeded only by "heart disease".

The accompanying chart comparing the death rate from heart disease, "cancer" and tuberculosis in Iowa since 1910 is very instructive.

The word "cancer" in vital statistics is used to include all malignant tumors. The increase is however represented entirely by "carcinoma". The increase of cancer is, of course, due chiefly to the increase in the average duration of life—enabling more persons to attain the age when cancer is most prone to occur. As indicated in the accompanying chart the average duration of life has increased from forty-nine years in 1900 to fifty-one in 1910 and fifty-nine (almost) in 1928—an increase of ten years in the past twenty-eight years.

Every physician knows that a large proportion of present day deaths from cancer are unnecessary.

The public should be urged to consult their physician whenever they have any sign or symptom suggestive of malignant disease. They should of course know something about suspicious signs or symptoms. This department will endeavor to aid in the education of the public.

DR. W. A. ROHLF HAS A BIRTHDAY

On January 5th Dr. W. A. Rohlf, of Waverly, had a fitting celebration of the anniversary of his birth. For seventeen successive birthdays Dr. Rohlf has invited a group of his professional friends to assist him in putting on a very high class clinic and scientific program at the Mercy Hospital in Waverly. This year, as usual, surgical operations were performed by Dr. Rohlf and by distinguished surgeons who were his guests, from 8:00 a. m. until 1:00 p. m.

The afternoon program from 1:30 to 5:00 consisted of dry clinics and scientific discussions led by H. W. Rathe, M.D., of Waverly; J. F. Auner, M.D., of Des Moines; H. C. Habein, M.D., of Rochester, and N. F. Miller, M.D., J. D. Boyd, M.D., and N. G. Alcock, M.D., of Iowa City; and J. R. Buchbinder, M.D., of Chicago.

In the evening a sumptuous banquet was served to the forty visiting physicians, at the Fortner Hotel, with L. A. West, M.D., of Des Moines acting as toastmaster. Dr. Auner, of Des Moines, paid beautiful tribute to the host as a surgeon and leader in his community, and F. A. Osincup, M.D., of Waverly delighted all present as he paid tribute to Dr. Rohlf not only as a man of high professional standing, but as one concerned in the intellectual, moral and spiritual betterment of the community.

These annual meetings are unique in that one man has, year after year, successfully provided a profitable, scientific program and cultivated a warm spirit of friendship among the guests; and even more unique because after seventeen annual celebrations the host remains the same youthful, cheerful, charming gentleman as when the custom began.

T. U. McManus, M.D.

NOTES FROM THE COLLEGE OF MEDICINE

The College of Medicine has established a series of lectures to be given monthly by prominent members of the profession within the state, to the members of the junior and senior medical classes. The first of the series was given by Dr. Evan S. Evans of Grinnell on January 7 and 8. His subject was The Art of Medicine.

The schedule for the remainder of this year is February 4 and 5, Dr. Frank Fuller of Keokuk; March, Dr. William Jepson of Sioux City; April, Dr. Donald Macrae, Jr., of Council Bluffs.

Dean Houghton delivered the regular monthly address to the staff and students of Dr. Harvey Cushing, at the Peter Bent Brigham Hospital, Boston, on January 8. On January 18th he delivered the annual address to the Alpha Omega Alpha, honorary medical fraternity at Omaha, Nebraska.

Dr. Henry J. Prentiss, head of the department of anatomy, has been diagnosed as having a perforating gastric ulcer. His colleagues in the surgical department have sent him to Rochester, Minnesota, for consultation and treatment.

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MEDICAL EDUCATION

There has been much writing, of late, in regard to medical education. None of it has been saner than the article of Wm. J. Mayo in the present issue. We take the liberty of stating our own opinions on this subject, agreeing for the most part with those of our noted contributor.

Too great a curtailment in pre-medical education is not wise. In the first place there is no paucity of physicians in this country, and there is no necessity for any lowering of standards. It is true that the training is long and arduous, and that the well trained physician often is nearing his third decade before he is earning his livelihood. But let us remember that the rewards are commensurate, and also that the proper practice of the profession demands sound judgment and broad intellectual perspective. A thorough foundation in general culture is the best preventive of faddism, superficiality, and commercialism.

We heartily agree that much medical teaching in the past has been poor, and not based even on elementary psychological principles. This, in our opinion, is partly due to the fact that the professorships in our schools have been allotted on the basis of renown attained through research, or of mere ability as a successful practitioner. But the brilliant scientist or the eminently successful clinician may not always be able to impart his knowledge. The ability to teach requires a special aptitude, and this should also be made a

desideratum when a post on the medical faculty is vacant.

The medical school has several functions. We, as well as Dr. Mayo, are speaking of only one of these, the training of future practitioners of medicine. For this we need educators. Some provision must be made for the man gifted as an explorer in medical science, without saddling him with distasteful class-room duties.

Methods in general education have improved. Those in medicine must keep pace. By all means physiology and anatomy should be taught together, and often clinical medicine as well. Some years ago, one would have inferred that the professor of nervous anatomy, for instance, was quite ignorant of nerve physiology or of neurology, so guarded was he against making any reference which would be of practical import at the bedside. But why should not the study of the tracts of Goll and Burdach be taken up directly with the study of voluntary equilibrium, and with the clinical findings in *tabes dorsalis*? Or the anatomy of the ear with *otitis media* and its complications?

Finally, but not the least of what a good medical school can do, is to instill into the young physician reverence for his calling, and a realization that he is about to enter a profession which for centuries has kept close to the highest moral ideals. The character and integrity of the teachers in our medical schools will do more to accomplish this than any course on medical ethics. Medicine has a long and honorable history. Forbid that we should not mould coming generations of physicians to the pattern left by our ancestors. Our medical education must be based on the old conception of the true physician, as

Vir bonus, sanandi peritus.

BRAIN SURGERY

In company with all other types of surgery cerebral surgery has made great advances in the past twenty-five years. There are those today who feel that the progress made in this latter branch of surgery has not been as marked as perhaps it might have been. To an extent this criticism is well founded; however when the natural handicaps which hedge about the study and investigation of disease processes existing within the skull are given proper consideration and when the mechanical difficulties attending the application of remedial measures to these disease processes are duly weighed it is quite obvious that any progress in the advancement of cerebral

surgery must necessarily be over a slow and painstaking road.

As time goes, twenty-five years is not long and yet it is only that length of time which separates us from an era when cerebral surgery was practically limited to the performance of decompression operations which were time consuming procedures and quite worthless when considered as a means of relief to the patient. Even at that time these operations were not universally accepted as worth-while, as evidenced by the remark once made by Da Costa to the writer: "One might as well take a piece out of the cathedral and expect the archbishop to grow."

The decompression operation as done today is an adequate surgical measure, performed in a scientific manner for the relief of a definite set of symptoms. Formerly when one wished to do something for a case of intracranial disease, usually tumor, very little else presented itself in the way of aid except this operation and at the conclusion of the operation the patient was informed that he had been made the recipient of all that surgical science had to offer.

Unquestionably the greatest factor in the progress that has been made is the ability that has been developed along diagnostic lines. Naturally the technique of operative attack has been greatly refined but this is a necessary corollary to diagnosis which must always precede operative technique. If one knows what and where the trouble is a way of getting at it will be discovered.

The degree of progress manifested in any branch of science or art is directly proportionate to the number of persons engaged in the study of that subject. Until recently cranial surgery was sadly ignored by the men of our profession. The work did not make a ready appeal; it was a slow, painstaking, laborious study and the results were not calculated to inspire one with enthusiasm to continue on in the face of such discouraging odds.

With the advent of Cushing, Frazier and Dandy who have done the pioneer work in this country and their successful demonstration of how intracranial disease is amenable to surgical relief a new era has dawned and a new field of surgery opened up which offers relief to a large class of sufferers who formerly were doomed to a place in the category of incurables.

As an offset to the generally pessimistic attitude towards this class of disease it is interesting and somewhat startling to know that Dandy has stated that approximately 90 per cent of patients suffering from intracranial disorders are amenable to surgical relief. This is indeed an encour-

aging outlook and should serve as a great stimulus to increased interest in this work.

As in every other disease condition early diagnosis in brain disease is the watchword. It is more than a watchword; it is paramount. If a tumor of the brain, and the great bulk of intracranial pathology is tumor, is to be successfully extirpated this must be done before the growing tumor has progressed to a size where its pressure has destroyed adjacent tissue and permanently damaged nerves and nuclei.

One of the greatest aids in localization of tumors has been the method of injecting air into the cerebral ventricles. This procedure is known as ventriculography. It is done by making a small hole in the skull at the rear. A needle with syringe attached is then pushed through the dura and cortex of the brain until the point of the needle rests within the posterior cornu of the lateral ventricle. A few centimeters of fluid are then withdrawn, the syringe disengaged from the needle and the fluid in the syringe expelled. An amount of air equal in volume to the fluid removed is drawn into the syringe, the syringe again attached to the needle and the air forced gently into the lateral ventricle. The needle is now withdrawn and the wound in the scalp closed. X-ray plates are then made of the head in various positions. The air will show on the plate as a lighter area and in this manner its progress through the ventricular system may be traced. If there be a block anywhere the air is unable to proceed and evidence of this is seen on the plate. In this way a diagnosis as to location of the obstruction can be very accurately interpreted. It would seem unnecessary to remark that this method in no way obviates the necessity of a meticulously careful neurological examination; on the other hand, it is supplementary to it and a part of it.

While all operations on the brain are carried out in the most delicate fashion and every effort made not to traumatise tissue, it is quite astonishing to note the amount of insult and rough usage the brain is capable of withstanding. Ample evidence of this fact was at hand as a result of experience in the recent war where brain injuries were all too common. Many of these patients who had extensive destruction of the cerebrum not only recovered without infection but when healing was complete had really very little to show in the way of disability as a result of their experience with modern high velocity projectiles.

In late years the cerebro-spinal fluid has come in for a great deal of attention on the part of many investigators and considerable has been learned

about it. It has a definite circulation comparable with that of the blood. It arises in the choroid plexus in the lateral ventricle and passes to the third ventricle and thence through the Iter to the fourth ventricle. From here it passes through the Foramina of Majendi in the roof of the fourth ventricle to the basal cisterns and thence over the cortex and finally is absorbed into the dural sinuses. Anything that clogs or blocks the circulation gives rise to a condition of increased intracranial pressure which is always a serious matter. If the obstruction is on the cortex the fluid accumulates in the basal cisterns with consequent pressure on the medulla and unless relieved death must ensue.

Relief of increased intracranial pressure may be accomplished in several ways. It is generally best to begin with the simplest method unless there be great urgency. This consists of dehydration and is accomplished by the use of certain substances which will force the fluids out of the tissues of the body thus leaving the tissues with less than their normal content of liquid. The use of glucose, magnesium sulphate or sodium chloride will bring about the result mentioned in many instances. They are administered by mouth, rectum or are given intravenously or in any combination of these ways. Failing to obtain a lowering of the pressure by this means it becomes necessary to drain the cerebro-spinal fluid directly by means of withdrawing the fluid by lumbar puncture. When this latter method cannot be used because of interruption between the cerebral and spinal circulation it is still possible to relieve pressure by making our puncture higher up and tapping the basal cistern at the level of the foramen magnum. This is naturally rather a delicate operation but in the hands of the experienced is performed without much difficulty.

If the block in the circulation occurs at a point between the lateral ventricle and the fourth ventricle giving rise to an internal hydrocephalus then a direct puncture of the lateral ventricle is the only means of relieving the situation. This has on occasions been a life saving measure—by tiding a patient over until such time as a formal operation could be undertaken for the removal of the obstructing cause.

Many problems still confront the worker in cerebral surgery but with the same indomitable spirit of achievement which has produced such brilliant results in other domains of surgery it seems fair to believe that with the enthusiasm and effort of the men now doing this work and of those to come, a high plane of accomplishment is sure to be obtained.

COORDINATION OF RESEARCH

In the January issue of the Pennsylvania Medical Journal, Dr. Frank C. Hammond, editor, has discussed in a very fitting manner some of the present day problems relative to the advancement of medical science from the standpoint of research. His presentation of the problem and the solutions offered reflect a thoughtful study of the situation, and for this reason, permission has been requested to present his editorial in full.

The age of individualism has passed, although here and there remnants of the old system survive. The American genius for organization, however, has left but few of them undisturbed. No longer does the poor inventor starve unappreciated in a garret and conduct his experiments with inadequate equipment. Today he works in a great laboratory, with every facility available, encouraged and supported by the corporation which plans to utilize his discoveries. No longer does the laborer toil hopelessly long hours under bad conditions for a wage insufficient to keep his family from want. Today he bargains collectively, and prospers beyond the largest dreams of his predecessors. No longer does the small manufacturer turn out a limited quantity of wares which differ from all those made by others in the same line. Today, the small businesses are gathered into large corporations, their products are standardized, the cost of production is halved, and the market doubled. The college consists no longer of Mark Hopkins at one end of a log and a student at the other; but in the immense university, thousands of students learn facts and methods in keeping with the newer knowledge of the universe and the magnitude of the civilization of which they are a part. Even medical research is no longer isolated. Men of wealth have dedicated their riches to the public from whom it came by establishing great foundations for the sole purpose of improving the health of the world. Research, thus, has not escaped the passion for organization which characterizes the present age; and this is well. Discoveries in the field of health have largely passed beyond the obvious stage, and study of the obscure, the intangible, requires concentration from which the individual worker is precluded by the necessity of self-support; it requires equipment which the individual is seldom able to accumulate; it requires cooperation which the individual can secure only too infrequently. Health research, as industrial research, must yield to the exigencies of the situation and accept organization if it is to produce results which justify it.

This tendency toward coordination of the immense amount of research now being conducted throughout the world is evident in the expressions of health workers frequently appearing in the press, both lay and professional. Some one has recently commented on the thousands of experiments conducted without fruition. The experimenters need a guiding hand to

eliminate the useless research, and save the time spent for productive study. It is obvious, also, that thousands of isolated experiments have failed to bear fruit because the seed fell on stony ground; that is, because the findings did not reach the attention of those who were able to appreciate their value. A central correlating agency is imperative if the results obtained are to be commensurate with the effort expended.

This much appears to be conceded quite generally. The point that is not yet satisfactorily worked out is the proper coordinating agency. There would appear to be several possibilities.

The first and most obvious would be the designation of such an agency by the national government. There is now a bill before Congress to establish a National Institute of Health, using as a nucleus the hygienic laboratory already in existence. This institute would be under the control of the surgeon general of the United States Public Health Service, and its purpose would be pure scientific research relating to the cause and prevention of diseases. The bill has been approved by the senate committee on commerce. According to the report of this committee, "the plan of the institute is to make of it a great cooperative scientific organization in which leading experts in every branch of science will be brought together and given opportunity to work in unison for the purpose of discovering all the natural laws governing human life, and especially to learn those variations of such laws which are detrimental to human health". It is difficult to overestimate the importance of this bill, and if such an institute is established, it might prove to be the best agency for correlating the research in health done throughout America.

For best results, however, it would not be sufficient to organize only a national institute of health. Every state should, then, have a state institution of the same type for the express purpose of cooperating with the national unit. Bureaus of research might be organized within the already-established departments of health.

The duties of the county health officer, now so ardently urged as a means of bringing together all the health activities within his district, could be increased to add this function; or it might be assigned to the largest hospital in a given territory. The service of the local health institute necessarily would consist largely in collecting and reporting the individual research and clinical experience of the practicing physicians and the hospitals within its scope. Nevertheless, this service must not be underestimated. Large amounts of important data could be collected by such agencies, and when brought together, classified, and analyzed by the central correlating officers, would provide information not available from any other source. This would give an impetus to individual research which it now lacks.

The second possibility would be the utilization of the organizations established by the large health

foundations to correlate the activities of research workers throughout the country. This would necessitate, however, the building up of local cooperating agencies, and would mean the development of an entirely new system of national scope. Since such national organizations are already in existence, it would seem best that the foundations limit their activities to those already undertaken. It is doubtful, also, whether it would be advisable for the correlating agency itself to do research work. It would perhaps be most successful by confining itself strictly to the work of organization, direction, correlation, interpretation, and dissemination.

A third possibility would be a new organization, with county and state branches converging into a national headquarters. Something of the kind has recently been started in the cancer work by the appointment of a national cancer committee with members in all parts of the country, with the cooperation of Drs. Charles H. Mayo and H. N. Bundesen, and others prominent in the profession. This method would be open to the same criticism as the utilization of the health foundations—only more so—that it would necessitate establishing another complete organization.

There is one far-reaching national organization, already thoroughly established, and made up of those who are most interested in the problem of health—the county, state and national medical associations. There is no class of citizens so vitally concerned in research into the normal and abnormal functioning of the human body as physicians. Many of the research workers are members of this organization. Most of the research is reported in the magazines published exclusively for physicians. The medical organizations have well-developed contacts with hospitals, research laboratories, the health foundations, public-health associations, and governmental agencies, as well as individual practitioners. There is no organization with potential resources quite so comprehensive as those enjoyed by the system of medical societies which forms a network covering the entire United States and its possessions. Furthermore, there is no organization with better facilities for international exchanges. Channels for this fellowship are already in existence, and need only use to develop their function to the fullest.

The medical organizations of the country owe it to themselves and to their clients to establish a protectorate in health research. Cooperation with governmental agencies, foundations, and lay organizations is not only desirable but imperative; but the initiative should arise from the medical societies. Theirs is the responsibility and theirs is the privilege. This does not mean that the medical societies must necessarily finance a large program of research work. If the machinery were provided, the financial support would be forthcoming from the many individuals interested in this type of work.

The responsibility is great and the opportunity knocks. Let the county, state, and national medical societies answer the call.

VIENNA NEWS

Embellished by a background of "pomp and heraldry" not feasible at home the American Women's Club of Vienna, the America-Austria Society and the American Medical Association of Vienna united to observe Thanksgiving Day. Seven hundred and fifty-five guests did ample justice to a menu of turkey, cranberry sauce and mince pie. A beverage called wine was also served. It is said to be very poisonous. In this instance, however, no ill effects followed its use. On the contrary, it seemed to create an atmosphere of good cheer and brotherly tolerance singularly appropriate on such an occasion. The festivities began with a reception at the residence of our Minister, Mr. Washburn. From there the company repaired to the spacious banquet halls of the former royal palace. Here the president of the American Medical Association, Dr. Ralph A. Reynolds of San Francisco welcomed the guests and introduced the first speaker, Herr Schober, the chief of police. "A good time was had by all."

A favorite topic of conversation among American physicians in Vienna at this time is the question of gastric and duodenal ulcer. An address on the etiology of this lesion delivered here by the eminent German pathologist, Professor Ludwig Aschoff, at the beginning of the school year has served as a fitting introduction to this subject. His conclusion approves the theory that the immediate cause of ulcer is the acidity of the gastric contents. Somehow, we gained the impression that the explanation offered is not the complete and final word on the solution of this interesting and important problem. It does not account for the cause of the hyperacidity. It does not explain the periodic seasonal exacerbations so characteristic of the disease. Why it should be so much more frequent in men than in women remains a mystery. Not even the normal function of the organs involved is fully known. It is therefore not strange that several schools of practice are contending for approval.

In this part of the world gastroenterostomy undertaken for the treatment of gastric or duodenal ulcer is now generally regarded as an obso-

lete procedure. Although visiting large surgical clinics every week day for three months, we have not seen this operation performed. Hochenegg, Eiselsberg, Finsterer, Denk and their assistants are all agreed that the operation of choice for the cure of ulcer is an extensive resection. According to their experience a gastroenterostomy does not give satisfactory results. Within a short time in over half the cases, it is followed by a gastrojejunal ulcer or at least by a recurrence of the symptoms. The mucous membrane of the jejunum cannot withstand the unphysiological corrosive action of the acid gastric juice. Therefore, the acid producing glands of the greater curva-

ture of the stomach must be eliminated if new ulceration and consequent complications are to be avoided. When reminded of the fact that not all patients are happy after resection, Professor Finsterer replied that in such cases not enough of the acid producing area of the stomach had been removed.

Acidity of the gastric secretion is the immediate cause of ulcer. Its cure depends entirely on the de-

THIS news article is the second of a series of "first hand" observations of the Medical Clinics of Vienna prepared especially for the Journal by Dr. Nicholas Schilling of New Hampton, Iowa.

Several matters, ranging from gastric ulcers to fec splitting, engage Dr. Schilling's attention this month.

gree of permanent alkalization produced by the operation. Incidentally, it may be observed that this is not a wholesome environment for an American doctor, who has been reasonably comfortable for many years after a mere gastroenterostomy. No surgeon has ever removed an appendix that wasn't diseased. Some of us will remember an incident that transpired about the time when appendectomy first became a fashionable intervention. One of our great surgeons was engaged in making the usual concession to the new fashion when one of his inquisitive personal friends disturbed the solemnity of the moment with the mischievous inquiry, "Say, Bill, what is the matter with that appendix, is it too long or is it too short?" In all seriousness we might submit a similar question to the advocate of resection. In order to deal successfully with a small ulcer of the duodenum is it necessary to remove two-thirds of an organ presumably so important as the human stomach? Is not the risk of so formidable an operation out of all proportion to the gravity and extent of the lesion? Here we

encounter the astuteness of an enthusiast. He never demonstrates a specimen that isn't inflamed. In the disease under consideration the ulcer is merely an advanced local manifestation of an extensive pathological process. Duodenitis, gastritis, perigastritis with adhesions to adjacent organs are characteristic changes more or less constantly in evidence.

It is to be noted that cases for operation are carefully selected. Except in surgical emergencies those with short clinical histories are referred to the internist. We are informed that patients after resection do remarkably well. After a few months they are told to eat "everything". It is declared that no ill effects follow this dietetic experiment, and that is some test in this country. It is more than likely that in the course of such an ordeal many contestants with gastroenterostomies would fall by the wayside. On the whole we are bound to admit that there is much evidence to support the radical standpoint on the treatment of peptic ulcer. After all, a man with a simple gastroenterostomy is a handicapped individual. He has not been cured of his disease. A fair chance of serious complications is ever in prospect. The best place to verify this statement is in any busy operating room. Statistics are notoriously misleading on this point because not all patients operated can be included in any report. There is always a considerable number whose whereabouts cannot be ascertained. Then too, a given case may be reported as perfectly well one year and die from the effects of perforated jejunal ulcer the next. It is true, of course, that in formulating conclusions on the relative merits of different therapeutic measures the newer method has certain advantages. As time goes on, however, the claims of premature enthusiasm are often discounted by the relentless logic of accumulating disappointments.

In the face of complications after gastroenterostomy, so familiar to every experienced surgeon, it is perfectly natural to conclude that it would have been better to have done an extensive resection in the first place. There is nothing more convincing than concrete tangible pathology.

In the work of a master like Finsterer, the higher primary mortality of resection is hardly a factor. At any rate, it is insignificant when compared with the final reckoning in cases of jejunal ulcer.

Whatever American doctors may think of fee-splitting they do not care to have it practiced on themselves. This point was thoroughly emphasized at a business meeting of our association held on December 19. It seems that there has

existed between certain specific pensions and our office an understanding that was "touching" indeed! (It reminds one of clandestine collegiate affinities at home.) It is a foregone conclusion that this matter has received immediate and effective attention. Already, the whole question of "room and board" has been turned over to the Women's Auxiliary. A few of the most flagrant offenders are on the "black list" and others have been notified that prices shall be "net". There is every reason to approve this course. No quarter should be given the brazen effrontery contained in the bland phrase, "the patient was satisfied".

The one weakness of our organization here resides in the fact that the local membership is constantly changing. On this account the officers, temporarily in charge of its affairs cannot profit much by the lessons of experience. This valuable commodity must be repurchased by each succeeding crop of "Freshmen". In this connection it is worthwhile to remind future immigrants that most grafters are accomplished linguists. The privilege to enjoy persuasive English conversation in a foreign country often develops into an extravagant pastime. The victim of such an arrangement usually reports that "living expenses" are higher than they are in America. The bait, "English spoken" must not be swallowed "on sight". On the contrary it should excite profound suspicion of rascality somewhere about the premises so placarded. Let me hasten to say that it would be extremely unfair to apply these observations to the many excellent teachers who give medical courses in English. As a rule, they are the embodiment of devotion, patience and unselfishness. The pride they take in the satisfactory progress of their proteges borders on fanaticism. In short, they are teachers in every sense of the word. It is a joy to acknowledge the debt we owe them. But signs constitute no part of their equipment. This theme must not be concluded without reference to another very significant circumstance.

The physician who trudges about Vienna from day to day in quest of useful medical information should bear in mind that some of the best "dope" dispensed in this place is wrapped up in the melodious and expressive "Wiener" dialect. English is not yet the official language of this university. Moreover, the real clinician and investigator is not to be found "about town" looking for business. He is more or less inaccessible. He needs to be discovered, "held up" and literally compelled "to come across" with his "stuff". Some of the best courses ever given in Vienna have been established in this way. Not

in any country, no matter how circumscribed his material resources may be, will a real scientist cheapen his work by a noisy appeal to the galleries. There are comparatively few native Americans in New York City, and, it is customary to criticise their want of cordiality. But such criticism is based on superficial observation absolutely. It is true that these people have learned to mind their own business and that they have good control over their emotions. At the same time, when properly approached, the typical New Yorker is about the best counselor and guide a bewildered provincial can have at his elbow. At any rate, the sophisticated traveler will deliberately avoid the effusive comrade who just loves to serve distinguished visitors. A very similar situation prevails in Vienna. The genuine "native son" constitutes a hopeless and a helpless minority. Helpless because he is a lofty idealist and despises every kind of calculating aggressiveness. He is a stickler for tradition, formality, propriety and nice ethical distinctions. In other words he is not a "hustler" and then complains that less deserving races receive most promotions and do all the business. However, it pays to meet him more than half way. To ignore him entirely for the more enterprising artist who may happen to speak more fluent English is not only a foolish mistake but, in many instances, it amounts to a direct personal loss.

Working familiarity with one or more foreign languages is of great practical value and it is also a constant source of immense satisfaction and enjoyment. While it is surprising and gratifying to observe the increasing number of people in Vienna who speak English let no one imagine that a knowledge of German is now superfluous here.

As at present constituted, the office personnel of our association is composed of English speaking foreigners. It is our opinion that it could be improved by the appointment of at least one German speaking American. There is no specified term of service. The supervising body selected from the frequently changing resident membership is necessarily docile and unfamiliar with the details of administration. It is obvious that we have here all the factors required for the development of bureaucratic tendencies. Our executive committee is at work on a plan of reorganization, pretentious and magnificent indeed. It is proposed to place the American Medical Association of Vienna under the auspices of some international society or foundation. The advantages of such an arrangement can hardly be overestimated. There would be more stable and experienced supervision of the whole establishment. Post-graduate work in every department of medicine would be tremendously stimulated.

HAVANA NEWS

Havana, Cuba, January 8, 1929.

As the echoes of the closing valedictories died away in the marble halls of the old Academy of Science in Havana on the afternoon of January the third, the first Pan-American Medical Congress passed into history.

The session opened with an address by Dr. F. M. Fernandez, and after the usual official felicitations, the president, Dr. Fred H. Allen, of New York, delivered his address and the congress passed to the more serious scientific program.

Notable among the addresses of this first day was that of Argemonte of yellow fever fame, who as Cuban minister of public health and professor of bacteriology in the National University, spoke on four major problems of tropical sanitation.

On Sunday morning, the 30th, visits were made to various clinics including the Military Hospital where captain Silvero delivered a lecture on Finley and his discoveries, and in the afternoon of January 2nd, the delegates participated in the laying of the corner stone of the new Finley In-

stitute. The morning session on Sunday was notable for the Oration on Medicine by Dr. Lewis F. Barker of Baltimore, who in his masterly manner gave an expanded vision of the complete medical survey of the individual. He not only held that the field of medicine rightly includes the biologic basis of the individual as revealed by the combined potentialities of hereditary germ plasm and environmental reactions, but includes his psychic, moral and social responsiveness as well, which only the well trained group, composed of medical specialists, is competent to appraise.

This rather advanced view found further expression during the morning in the paper by Dr. B. R. Tucker of Richmond, who spoke on the relations of criminology and medicine and even proposed that in the future, perhaps however, quite remote, the functions of the criminal courts should be restricted to the finding of the facts of crime and the cure or penalty delegated to a duly established medical body or commission.

Other speakers of the day were Edward Hume

of New York, on post-graduate medical instruction, Chevalier Jackson of Philadelphia on Bronchoscopy as an aid to diagnosis, Tapez Nussa of San Juan, Porto Rico, on cancer of the uterus, Pedro Castillo on tumors of the lung. Castillo, with whom I spent a forenoon in the hospitals is the most outstanding of the younger medical men in Havana, who as honor student in the Medical School of the National University was given three years graduate work abroad which he elected to take in France and Germany. His clinic in the Calixto Garcia, is modern in all of its equipment and personnel.

Aside from the oration on Surgery, delivered by Dr. Wm. J. Mayo, the last three days of the congress were largely occupied by Spanish-American delegates who as representatives of their government or members of the faculties of the leading Latin-American universities, gave a splendid presentation of advanced clinical teaching and a growing appreciation of the value of public health measures.

Mayo's paper reviewed the experience of this clinic in 520 splenectomies for various conditions, with a critical review of the results as revealed in retrospect. It was a just and masterly presentation of the entire field of therapeutic splenectomy and was of course enthusiastically received.

Mexico was well represented on the program by Drs. Valdes, who spoke on the surgical abdomen, Pruneda who, as secretary of public instruction, reviewed their recent propaganda throughout the republic in the interest of the public health, and Malda who as chief of the department of health of the City of Mexico, discussed the subject of cholecystitis. In discussing the cancer problem in Mexico with the latter two gentlemen, I learned that they had recently made an extensive statistical survey and have confirmed Hoffman's report that cancer is relatively very rare among the indigenous Indian population.

Among the official functions of the Cuban government in recognition of the congress, was a banquet at the tennis club, a reception at the presidential palace, and a four days special excursion throughout the entire island at the conclusion of the congress, as guests of His Excellency, the Honorable President of the Republic.

The proceedings will be public by the Revista Medica Pan-American, the official organ of the congress.

The next annual meeting will be held in Panama, beginning during the holidays, at which it is planned to precede the regular session by a few days intensive special clinical courses, presented

by notable Latin-American and English-American masters.

The congress is under deep obligation to Dr. Francesco Maria Fernandez, who as president of the committee of organization, contributed so much to our pleasure and welfare and who because of his linguistic accomplishments, was able to epitomize in Spanish or English the major points of the subjects presented.

DR. W. E. SANDERS.

DR. OLIVER KAMM HONORED

For his work in an investigation of the ductless glands and particularly in his isolation of pituitary hormones Dr. Oliver Kamm, director of chemical research of Parke, Davis & Company, manufacturing chemists, has been awarded the \$1000 prize by the American Association for the Advancement of Science for the "most noteworthy contribution to science presented at the annual meeting".

Some 2000 scientists delivered addresses at this meeting, which was held in New York. The award was announced on January 2 by Dr. Henry Fairfield Osborn, president of the association.

The isolation of two hormones from the posterior lobe of the pituitary gland, as revealed by Dr. Kamm, is held by chemical scientists to be equal in importance to the isolation of insulin and the discovery of adrenalin.

Dr. Kamm isolated the alpha and beta hormones of the posterior pituitary after twelve years work in the Parke-Davis Research Laboratories. This, incidentally, is the first time that anyone has demonstrated that one gland might contain more than one hormone.

The alpha hormone is the so-called oxytocic principle. The beta hormone is the blood-pressure-raising principle. Dr. Kamm also showed definitely that the beta hormone has the power of controlling the excessive output of water. His paper before the American Association for the Advancement of Science showed that it has been a mistake to refer to the so-called "renal activity" of pituitary extracts.

The beta hormone does not act upon the kidneys, but controls the utilization of water by the individual tissues of the body.

The usefulness of this beta hormone is now under investigation in diseases characterized by excessive loss of water, such as diabetes insipidus, burns, cholera, other infectious diseases, and surgical shock.

Dr. Kamm points out in his prize winning paper that much depends upon the ability of the body tissues to retain and utilize water. He said:

"The dangerous symptoms following surgical anesthesia are due mainly to the dehydration of tissues, and the use of beta hormone prevents such desiccation.

"Following extensive body burns, it has been thought that death results from the absorption of

toxins. According to the newer view, however, it may be the result of the desiccation of the body tissues. In such cases, if this were proved true, the use of a drug like the beta hormone might possibly save life by favoring the retention of water in the tissues. It is conceivable that something quite startling might flow from this idea in cases of serious burns.

"Water-intoxication, with its alarming symptoms leading even to unconsciousness, is very rare. The other extreme, that of water-poverty, is rather more common, and is characterized by extreme thirst and excessive elimination of water. This condition, known clinically as diabetes insipidus, is relieved at least temporarily by pituitary extract, and it has just been found that the beta hormone possesses this remarkable action.

"Although other factors are also involved, it appears that proper hydration is needed for the growth of tissues. In this respect, few of us are absolutely normal. We find that some individuals are extremely sensitive to the action of the beta hormone—they are the 'physiological wets'; while others readily return to normal after administration of the hormone—they are the 'physiological drys'.

"It has just been observed that the fleshy type of individual is almost invariably of the wet type, whereas the slender, scrawny person is usually a dry. The suggestion is therefore made that we have here possibly one of the important explanations as to why the former is fleshy and why the latter fails to gain weight readily in spite of an excessive intake of food and water. It is apparent that the portly person who is desirous of reducing must cut down on his liquid intake, as well as on his intake of solid food. As for the scrawny person, gland therapy may possibly be indicated, but here the work still is in the investigative stage and conclusions cannot be drawn.

"Only a very few grams of highly purified alpha and beta hormones are as yet available. Commercially they are known as pitocin and pitressin, respectively. Although the Parke-Davis Research Laboratories use the methods of micro-analysis, a single laboratory experiment requires the pituitary glands of 50,000 cattle."

In prefacing his address, Dr. Kamm told the American Association for the Advancement of Science, that:

"Man is on the threshold of a great chemical era. As the number of products derived directly from nature is decreasing, the field of synthetic possibilities is continually increasing, and as a result the possibility of producing new or related drugs will continually increase."

ALBERT J. OSCHSNER MEMORIAL LECTURE

The third Albert J. Ochsner Memorial Lecture of the North Side Branch of the Chicago Medical Society will be given by George W. Crile of Cleveland,

on Thursday, February 21, 1929, at the Germania Club, Germania place and Clark street, Chicago.

This lecture will be preceded by a banquet in honor of Malcolm LaSalle Harris, president-elect, and Frank Billings, Arthur Dean Bevan and William Allen Pusey, ex-presidents of the American Medical Association of Chicago.

President William S. Thayer, the members of the board of trustees and other officers of the American Medical Association have accepted our invitation to these events.

For reservations communicate with Miss Wolff, 25 East Washington street, Chicago. Randolph 0244. \$2.50 per plate.

CONSERVATION OF VISION AMONG LABORING MEN

A nationwide educational campaign for the prevention of blindness and the conservation of vision among the industrial workers of America and among their families will be launched immediately as a joint effort of the American Federation of Labor and the National Society for the Prevention of Blindness, it was announced here tonight by the latter following its annual meeting.

The Society for the Prevention of Blindness has for some twenty years led the fight for conservation of vision; the Federation of Labor is now joining hands with this society for an intensive campaign within the membership of the federation because of requests for assistance in health education which have come to the Washington headquarters of the A. F. of L. from various state and local labor bodies and because of the growing seriousness of the eye hazards of industrial occupations.

In announcing the campaign, Lewis H. Carris, managing director of the National Society for the Prevention of Blindness, declared: "The campaign is being undertaken because of our conviction that the eye hazards of industrial occupations—that is, accidents, diseases affecting the eye, and eyestrain—now constitute probably the most serious cause of blindness and impairment of vision among workmen in America. It is the belief of the officers of both organizations that a very large percentage of industrial blindness is preventable and that many of the eye hazards in the home, on the street and in other places outside of industry, which at present threaten the sight of the wives and children of our workmen, also are avoidable."

If this educational activity of the A. F. of L. is found to be effective, it is probable that the Federation will in future years make similar efforts to serve its membership in other major health fields.

The campaign for the prevention of blindness will be carried on through the various publications of the American Federation of Labor and of local labor bodies, through radio broadcasting, exhibits in the meeting places of labor organizations and other avenues of health education. The announcement of

the campaign by the A. F. of L. and the Society for the Prevention of Blindness says: "The seriousness of the situation which this campaign seeks to correct may be appreciated when one thinks of the following few facts:

"The industries of this country are at present paying approximately \$10,000,000 a year compensation to workmen who have been totally or permanently blinded while at work; this expense is inevitably reflected in the cost of commodities and thereby in the cost of living;

"The direct loss to the working men and women of America through lowered efficiency or earning capacity following blindness or serious impairment of vision is probably much more than \$10,000,000 a year;

"There is a further loss, intangible, but probably even more serious than the foregoing, in the tragedy which enters every home in which a person has been blinded or has lost part of his sight permanently—a tragedy which often spells disaster.

"Close students of industrial conditions are now convinced that 98 per cent of all industrial accidents are preventable; if this applies also to the eye hazards of industry, this joint effort of the A. F. of L. and the Society for the Prevention of Blindness and the Society's program within the industries themselves and among employer groups should result in the saving of many men's and women's eyes."

ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER AT DAYTON

The annual meeting of the American Association for the Study of Goiter will be held this year at Dayton, Ohio, on March 25, 26 and 27. The primary object of this association is to bring together each year men who are especially interested in the study of goiter and its associated problems. Members of state and provincial medical societies are eligible and cordially invited to participate as attending members.

The 1928 meeting, which was held at Denver, was a decided success. Professor B. Breitner of the von Eiselsberg Clinic of Vienna, and Dr. Gulbrand Lunde, professor of biochemistry of Oslo, Norway, were the foreign guest speakers. Drs. H. S. Plummer, S. F. Haines, J. deF. Pemberton and William Boothby of the Mayo Clinic held clinics and presented papers. Among the other contributors to the program were W. Blair Mosser of the University of Pennsylvania; W. H. Cole, N. A. Womack, and S. M. Gray of Washington University, St. Louis; A. E. Hertzler, Halstead, Kansas; J. L. DeCourcy, Cincinnati; Allen Graham, Cleveland; H. M. Clute of Lahey Clinic, Boston; J. Tate Mason of Mason Clinic, Seattle; and Willard O. and P. K. Thompson of the Massachusetts General Hospital Thyroid Clinic.

The first day of the Dayton meeting will be given over to diagnostic clinics in the morning and several

short papers during the afternoon, chiefly concerned with recent experimental work. On the second day, operative clinics will be held at the Miami Valley Hospital, St. Elizabeth's Hospital and at the Soldiers' Home Hospital. The afternoon of the second day and the morning and afternoon of the third day will be given over to the presentation and discussion of scientific papers.

The headquarters will be at the Hotel Miami. Dr. William A. Ewing is president of the Montgomery County Medical Society under whose auspices the meeting is to be held. Dr. E. M. Huston is the general chairman of the committee on arrangements. Dr. H. C. Haning is chairman of the hotel committee. All communications in regard to hotel reservations should be addressed to Dr. Haning at the Reibold building, Dayton, Ohio.

TWO FINED FOR PRACTICING WITHOUT LICENSE

Despite the lack of improvement of provisions in the medical acts of Iowa, three county attorneys have this winter secured convictions of malpractice. The Journal last month reported that W. F. Hughey had been found guilty of practicing in Story county without a license. Two other convictions are now reported.

Emma Dean Sterman, Madison County

Emma Dean Sterman of Peru, Madison county, widow of Dr. Sterman, who has maintained her husband's office since his death some years ago, was charged with practicing medicine without a license. Three specific charges were made. One, that of administering an opiate to a boy with a broken arm; and the other two were lack of calling a physician in time, the first being an overlooked case of appendicitis, and the second an obstetrical case in which the patient died. Her defense was that she was acting as a graduate nurse, the state having shown that she was not registered in Iowa. The judge held that neither a registered nor graduate nurse has any more right to practice medicine than any other person, nor has she any right to prescribe any form of medicine. She was found guilty and fined \$100.

Walter Hawkins Found Guilty at Humboldt

The trail of Walter Hawkins, alleged "faith healer", covers several counties in northwest Iowa. He had made his headquarters in Lake City, Calhoun county, and upon December 6th, the sheriff of Carroll county arrested him in Glidden. He was for six weeks confined in the Pocahontas county jail and came to trial January 10th at Humboldt.

The judge fined him \$300 for practicing without a license. He was paroled to his attorney; the fine was remitted and Hawkins is reported to have left for Chicago.

SOCIETY PROCEEDINGS

Sioux Valley Medical Association Winter Session

The thirty-fourth winter session of the Sioux Valley Medical Association was held at the Martin Hotel in Sioux City, January 22 and 23. Despite the weather the meetings were well attended.

The Tuesday morning session opened with a clinic by H. O. McPheeters, M.D., of Minneapolis, demonstrating the injection treatment of varicose veins, following which Alexius M. Foster, M.D., of Colorado Springs gave a tuberculosis clinic, and Charles A. Elliott, M.D., of Northwestern University, held a medical clinic. The afternoon session consisted of scientific papers by the three who held the morning clinics, and in addition a moving picture demonstration by M. E. Davis, M.D., Northwestern University, department of obstetrics.

At the banquet that evening William Jepson, M.D., of Sioux City, as toastmaster introduced Dean Henry S. Houghton of the Iowa State University College of Medicine, who spoke upon the university and medical education.

The Wednesday morning session consisted of a continuation of Dr. McPheeters' demonstration and of three clinics; orthopedic, by H. W. Orr, M.D., of the Nebraska Medical School; pediatric, by Henry F. Helmholz, M.D., of the Mayo Clinic; and surgical, by Carl Davis, M.D., of Rush Medical College.

In the afternoon a brief business session was held followed by scientific papers by three of the morning's clinicians, Drs. Davis, Orr, and Helmholz.

The officers of the society are: President, Dr. C. P. Dolan; vice-president, Dr. C. O. Wright; vice-president, Dr. Goldie Zimmerman; secretary, Dr. J. H. Henkin; treasurer, Dr. W. R. Brock.

Sioux Valley Eye and Ear Academy

Sioux Valley Eye and Ear Academy held its annual meeting in Sioux City, Iowa, January 22nd, and banqueted with the Sioux Valley Medical Association that evening. The day's program follows: Retro-Lental Space, L. W. Morsam, M.D., Hibbing, Minnesota; Some Case Reviews of Laryngeal Tumors, W. V. Mullin, M.D., Cleveland, Ohio; Unilateral Congenital Paralysis of the Motor Oculi, C. W. Rutherford, M.D., Iowa City, Iowa; and Treatment of Asthma in Otolaryngology, D. M. Lierle, M.D., Iowa City, Iowa.

Iowa-Illinois Central District Society

The regular winter meeting of the Iowa and Illinois Central District Medical Association was held Thursday, January 17, at the Chamber of Commerce, in Davenport, Iowa. About sixty doctors, from eastern Iowa and western Illinois, were in attendance.

Dr. Edwin G. Bannick of the medical staff of the Mayo Clinic at Rochester, Minnesota, presented a splendid paper on Nephritis. This paper provoked considerable interest and instructive discussion.

Dr. Kellogg Speed of Chicago gave a very interesting illustrated talk on Fractures and Dislocations. Dr. Speed's wide experience and choice selection of slides made for a very instructive lecture.

The Iowa and Illinois Central District Medical Association is one of the oldest medical organizations in this section, having been organized in 1866. All members of the Iowa State Medical Society and the Illinois State Medical Society are eligible to membership in this association. The next regular meeting will be held Thursday, April 11, 1929, in Rock Island, Illinois. The meeting place and program will be announced later.

Harry H. Lamb, Secretary.

Bremer County

The Bremer County Medical Society held a joint meeting with the staff of St. Joseph's Mercy Hospital in the auditorium of the Nurses Home on Thursday evening, December 27, 1928. A banquet was served by the Sisters of St. Joseph's Mercy Hospital at 6:30 p. m., which was attended by the doctors and their wives and invited guests. After dinner the business of the society was transacted and the following officers elected for 1929: Dr. C. H. Graening, Waverly, president; Dr. F. J. Bries, Sumner, vice-president; Dr. M. N. Gernsey, Waverly, secretary and treasurer; Dr. F. J. Epeneter, Denver, censor; Dr. L. C. Kern, Waverly, delegate to State Society; Dr. F. R. Sparks, Waverly, alternate to State Society.

A vote of thanks was tendered the Sisters for their generous banquet. The matter of holding a chest clinic as well as a cancer program was left to the president and secretary. During the banquet vocal selections were rendered by Mr. and Mrs. McClure and a violin number by Frank Sturdevant. After the business session Dr. Ed. Rohlf of Waterloo read a paper on Health Problems as Related to the Public Schools.

M. N. Gernsey, Secretary.

Cerro Gordo County

Cerro Gordo County Medical Society met January 15th for a dinner meeting. The following program was presented: A Trip Through Europe, W. J. Egloff, M.D.; English Obstetrics of Fifty Years Ago, C. W. Tice, M.D.; and Deputy Councilor W. E. Long gave a report of the Annual Conference of Secretaries and Councilors held in Des Moines, December 13th.

Dallas-Guthrie Cancer Program

The Dallas-Guthrie Medical Society met in the Arlington Hotel at Adel, Thursday noon, January 17th, to hear a cancer program presented by Chas. Ryan, M.D., and Floyd W. Rice, M.D., both of Des Moines.

Dickinson County Entertains Osceola County

A joint meeting of the Osceola County Medical Society and the Dickinson County Medical Society

was held at Spirit Lake, December 7, 1928, with doctors from Estherville and Spencer in attendance. The Dickinson County Society entertained the visiting doctors with a dinner at the Antlers Hotel before the program was given.

The program consisted of the following papers by members of the Osceola County Medical Society: An Old Prophecy: Is it Being Fulfilled? Frank S. Hough, M.D., Sibley; The Laboratory as an Adjunct to Diagnosis, Frank Reinsch, M.D., Ashton; Influenza: Some Peculiar Manifestations. K. A. Sporre, M.D., Harris; The Conservative Management of Fractures. F. P. Winkler, M.D., Sibley.

Dr. Hough's paper was a former address to the Upper Des Moines Medical Association as retiring president twenty-five years ago. The Doctor proved that he is some seer. In the discussion of simple laboratory technic by Dr. Reinsch as a routine procedure in diagnosis, emphasis was placed on laboratory tests that can easily be employed by the general practitioner, but frequently omitted. Dr. Sporre presented several interesting case histories of peculiar manifestations in influenza occurring in the experience of a general practitioner in a rural community. The conservative management of fractures, presented by Dr. Winkler, was supplemented by a number of x-ray films illustrating various stages in the process of restoration. C. S. Shultz, Secretary.

Hancock-Winnebagoo County

The annual meeting of the Hancock-Winnebagoo County Society was held at Garner, in Zieger's Recital Hall on December eighteenth with a good attendance.

The scientific program was presented wholly by the members of the society. Drs. T. J. Irish, W. F. Missman and J. L. Nevin each presented very commendable papers on the subjects: Intracranial Hemorrhage in the Newborn; Relation Between Rheumatic Fever in Children and Middle Age Heart Disease, and Diagnosis by the General Practitioner. Each paper was largely discussed.

Dr. Irish and Dr. Nevin submitted reports of the State Conference of Deputy Councilors and Secretaries held in Des Moines December 13.

A majority vote decided that four meetings be held the coming year, one each quarter, and the next one be held in Forest City.

The following officers were elected for 1929: President, Dr. E. A. Couper; vice-president, Dr. G. F. Dolmege; secretary, Dr. G. E. Snearly; delegate, Dr. T. J. Irish. G. E. Snearly, Secretary.

Johnson County

Johnson County Medical Society met in the American Legion building, Wednesday, January 2nd, at 6 p. m. The program was as follows: Anemia in Nephritis, Earle P. Scarlett, M.D., discussion opened by F. J. Rohner, M.D. Urologic Diagnosis in Rela-

tion to General Diagnosis, N. G. Alcock, M.D., discussion opened by W. R. Whiteis, M.D. A brief outline of each of the papers was included in the program announcement mailed to the members before the meeting.

Lee County

The Lee County Medical Society met Thursday, December 20th, at the Sacred Heart Hospital in Fort Madison. The afternoon program was opened by Professor Anatole Kolodny of the State University Medical College, who presented a paper on Head Injuries, the discussion being opened by Chas. H. Magee, M.D., Burlington. Professor P. C. Jeans of the State University Medical College presented an illustrated paper, Recent Observations on Certain Aspects of Nutrition in Children; and William Rankin, M.D., Keokuk, lead the discussion. Skin Diseases was the title of a paper read by Noxon Toomey, M.D., St. Louis. Following a 6:00 o'clock dinner George B. Lake, M.D., editor of Clinical Medicine and Surgery, Chicago, delivered an address on Psychic Factors in Disease. Officers for 1929 were elected as follows: President, George R. Narrelly, M.D., Keokuk; vice-president, F. R. Richmond, M.D., Fort Madison; secretary-treasurer, William Rankin, M.D., Keokuk.

Linn County

The January meeting of the Linn County Medical Society was held at the Montrose Hotel, Thursday, January 10th, at 8 p. m., with Drs. J. G. Goggin, A. E. Crew, Thos. F. Suchomel, and Wm. Redmond as hosts. Robert B. Preble, M.D., of Chicago, read a paper on Recent Advances in the Therapy of Heart Failure, and Arthur W. Proetz, M.D., St. Louis, presented a paper on Sinus Diseases.

Mahaska County Annual Meeting

At the regular meeting of the Mahaska County Medical Society the following officers were elected for the ensuing year: President, L. H. Rogers, M.D.; vice-president, F. J. Jarvis, M.D.; secretary, W. V. Campbell, M.D.; treasurer, B. O. Jerrel, M.D.; all of Oskaloosa.

The society voted its endorsement of the campaign to make all those eligible, members of the State Society. W. V. Campbell, Secretary.

Marshall County

The Marshall County Medical Society met at Hotel Tallcorn in Marshalltown, Tuesday, January 8th. Professor Frank Peterson, State University Medical College, delivered an address upon the Gall-Bladder, and Professor D. M. Lierle, State University Medical College, spoke upon Bronchoscopy, illustrating his lecture with slides. Thirty-four physicians were present.

Polk County

The Polk County Medical Society held its regular monthly meeting in the Oak Room of the Fort Des Moines Hotel, January 29, 1929. The following scientific program was presented: Metastatic Epidural Spinal Abscess and Report of Cases, F. A. Ely, M.D., and Lesions of Spinal Cord Following Straining at Stool, with two case reports, T. B. Throckmorton, M.D. Dr. Ely's paper was discussed by Dr. Throckmorton and Dr. H. B. Henry. Dr. Throckmorton's paper was discussed by Dr. Ely.

Dr. F. O. Woodward, Des Moines, was elected to membership. It was agreed that the Polk County Society should accept the offer of the Jackson County Society, Kansas City, Missouri, that they exchange speakers and programs.

Poweshiek County

The January meeting of the Poweshiek County Medical Society was devoted to a heart and lung clinic, Drs. Peck and Myers of Des Moines, clinicians; and was held Friday, the 18th, at 3:00 p. m. in the Community Hospital at Grinnell.

Scott County Cancer Program

The Scott County Medical Society met in Davenport, Tuesday, January 8th, and listened to the first of the series of cancer programs being held by Iowa component societies.

Norman F. Miller, M.D., Iowa City, read a paper upon cancer which was followed by a prolonged and interesting discussion.

Story County—Boone County

A joint dinner meeting of the Story and Boone County Societies was held Thursday, January 17th, in the Memorial Union building on the college campus at Ames. M. A. Healy, M.D., of Boone, read a paper on Psychoneuroses, and M. C. Jones, M.D., of Boone, presented a paper upon Control of Respiratory Infections.

Union County Annual Meeting

The annual meeting of the Union County Medical Society was held Friday, December 28th, at Creston, Iowa. The following officers were elected: President, C. B. Roe, M.D., Afton; vice-president, J. C. Parsons, M.D., Creston; secretary-treasurer, J. G. Macrae, M.D., Creston; alternate, F. W. Sells, M.D., Osceola. A round table discussion was devoted to influenza and tularemia.

Webster County

The Webster County Medical Society met Tuesday, January 22nd, at the Waukonsa Hotel at Fort Dodge. Professor C. W. Baldrige of the State University Medical College, presented a paper on Clinical Differentiation between Hyperthyroidism and Functional Disturbances. The secretary, John

C. Shrader, M.D., gave a report of the Annual Conference of Secretaries and Councilors held in Des Moines, December 13th.

Waterloo Society

Dr. Chas. Hugh Nielson, assistant dean of the St. Louis University Medical College, most acceptably addressed the Waterloo Medical Society January 16th, on the subject The Nervous Patient.

PERSONAL MENTION

Dr. W. S. Chester, formerly of Haydock and Knoxville, has moved to Albia, Iowa, where he is associated with Dr. T. E. Gutch.

Dr. Mildred Buzza of Council Bluffs has left Iowa for Pueblo, Colorado, where she will be a member of the Colorado State Hospital staff.

Dr. William Whitehouse is entering practice with his uncle, Dr. W. A. Howard of Stanton. Dr. Whitehouse graduated from the State University Medical College in 1927, and has been an intern in the general hospital at Denver.

Dr. A. I. Reed has moved from Grand Junction to Estherville, where he will specialize in eye, ear, nose and throat.

Dr. C. A. Brown has recently moved from Fenton, Iowa, to Clutier, Iowa, where he will continue his practice of medicine.

OBITUARIES

Linehan, Lewis Joseph, of Dubuque, died January 5 at the age of forty; graduated in 1912 at Memphis Hospital Medical College, Memphis, Tennessee. At the time of his death he was a member of the Dubuque County Medical Society.

Hooper, Martin Luther, of Indianola, died January 7, at the age of sixty-one of heart disease; graduated in 1891 at College of Physicians and Surgeons, Keokuk, Iowa, and in 1898 at University of Illinois College of Medicine. At the time of his death he was a member of the Warren County Medical Society.

Krout, Jacob B., of Fremont, died January 11, at the age of seventy-three of blood poisoning; graduated in 1886 at College of Physicians and Surgeons, Keokuk, Iowa. He had been a member of the Mahaska County Medical Society.

Dr. Edward E. Dorr

Dr. Edward E. Dorr, for many years an active medical practitioner in Des Moines, also active in civic and school matters, died in Des Moines, Iowa, December 14, 1928, at the age of sixty-five years.

(Continued on page 84)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- LOBAR PNEUMONIA**—By L. R. Sante, M.D., P.A.C.R., F.A.C.P.—Paul B. Hoeber, Inc., New York—Price \$3.00.
- A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS**—By Hugh A. McGuigan, M.D. W. B. Saunders Company, Philadelphia and London—Price \$6.00.
- THE SURGICAL CLINICS OF NORTH AMERICA (Pacific Coast Number)**—W. B. Saunders Company, Philadelphia and London—Price \$12.00, Paper; \$16.00, Cloth.
- THE SURGICAL CLINICS OF NORTH AMERICA (New York Number)**—W. B. Saunders Company, Philadelphia and London—Price \$12.00, Paper; \$16.00, Cloth.
- CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE**—Committee Report, Harold E. B. Pardee, M.D., Chairman—Paul B. Hoeber, Inc., New York—Price \$1.50.
- DISEASES OF INFANTS AND CHILDREN**—By Henry Dwight Chapin, A.M., M.D. and Lawrence Thomas Royster, M.D.—William Wood and Company, New York—Price \$7.50.
- RECENT ADVANCES IN CHEMISTRY IN RELATION TO MEDICAL PRACTICE**—By W. McKim Marriott, B.S., M.D.—The C. V. Mosby Company, St. Louis—Price \$2.50.
- PEDIATRICS**—By Harry Monroe McClanahan, A.M., M.D.—J. B. Lippincott Company, Philadelphia and London.
- A MANUAL OF THE PRACTICE OF MEDICINE**—By A. A. Stevens, M.D.—W. B. Saunders Company, Philadelphia and London—Price \$3.50.
- TEXT-BOOK OF UROLOGY**—By Daniel N. Eisendrath, M.D.—J. B. Lippincott Company, Philadelphia—Price \$9.00.
- PROBLEMS IN SURGERY**—By George W. Crile, M.D.—W. B. Saunders Company, Philadelphia and London—Price \$4.00.
- REGIONAL ANESTHESIA**—By Gaston Labat, M.D.—W. B. Saunders Company, Philadelphia and London—Price \$7.50.
- TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA**—Philadelphia.
- MEDICAL CLINICS OF NORTH AMERICA**—W. B. Saunders Company, Philadelphia and London—Price \$12.00, Paper; \$16.00, Cloth.
- A TEXT-BOOK OF PATHOLOGY**—By William G. MacCallum, M.D.—W. B. Saunders Company, Philadelphia and London—Price \$10.00.
- THROMBO-ANGITIS OBLITERANS**—By Geo. E. Brown, M.D.—W. B. Saunders Company, Philadelphia and London—Price \$3.00.
- A SHORT HISTORY OF MEDICINE**—By Charles Singer, M.A., M.D., D.Litt., Oxford—Oxford University Press, American Branch, New York—Price \$3.00.
- INTERNATIONAL CLINICS**—Edited by Henry W. Cattell, A.M., M.D.—J. B. Lippincott Company, Philadelphia and London.

BOOK REVIEWS

ESSENTIALS OF PRESCRIPTION WRITING

By Cary Eggleston, M.D., Assistant Professor of Clinical Medicine, Cornell University, Medical School. Fourth Edition, Revised. 16 Mo. of 153 Pages. Philadelphia and London: W. B. Saunders Co., 1928. Cloth, \$1.50 Net.

This small volume of pocket size proportions contains the essential knowledge necessary for the proper preparation of prescriptions, barring, of course, the necessary pharmacology. In the former editions of this valuable text the older apothecaries' system of measurement was stressed. In this all stress is rightly placed upon the newer metric system of drug measurement. Again, in this edition progress is apparent, since the older Latin terminology is largely replaced by a more sane English one.

The book is not to be confused with the so-called "dose book".

THE MEDICAL CLINICS OF NORTH AMERICA

Chicago Number, Volume 12, Number 1. July, 1928. Philadelphia and London. W. B. Saunders Company.

In this, the Chicago Number of Clinics, will be found a variety of articles covering timely subjects in both medical and surgical diagnosis. The clinics of N. S. Davis, III, on heart diseases will be particularly helpful to the general practitioner, as will also the clinics of Dr. Solomon Strouse and B. Y. Glassberg, covering the late results of insulin treatment in diabetics. To the physician interested in disease of children, the clinic of Dr. Isaac A. Abt

and Johanna Heumann on the "Significance of Lymphocytosis in Infants and Children", as well as the clinic by Dr. Julius H. Hess and S. L. Berman on "Erythema Nodosum in Childhood", together with that of Dr. Ralph C. Hamill entitled "Behavior Disturbances of Children", and that of Dr. Joseph K. Calvin on "Enuresis in Children", constitute a post-graduate course on timely subjects in this group of patients. There are other clinics displaying some of the more uncommon conditions met with in diagnosis that will interest particularly the specialist in the particular subject. The entire volume is most interesting.

THE ELEMENTS OF THE SCIENCE OF NUTRITION

By Graham Lusk, Ph. D., Sc.D., Professor of Physiology at the Cornell University, Medical College, New York City. Fourth Edition, Reset. Octavo of 844 Pages. Philadelphia and London: W. B. Saunders Company, 1928. Cloth \$7.00 Net.

Dietetics in its relations to both health and disease is now enjoying the center of the stage in modern medical management. There is no branch of medical practice in which one is not called upon daily for advice regarding diets. Commercial propaganda, masquerading in the guise of science, welcomed by the perennial food faddist and sponsored by the paid testimonialist, produces a maze through which only genuine unbiased science can safely pilot our steps. In this volume we find only that which is scientifically proven and those basic factors relative to food metabolism upon which one should begin any study of dietetics.

Suitable chapters deal with the metabolic fate of carbohydrates, fats, and proteins in the body, and in subsequent chapters much attention is given to the conditions resulting in and from a derangement of these metabolic processes. Adequate space is given to those accessory factors of diet, the vitamins. The food requirements of growth, the anemias, the pregnant state, and diabetes are thoroughly discussed in appropriate sections.

The student will find in this volume a wealth of proven facts basic to any study of medical management; the practitioner will find a storehouse of knowledge which may be freely drawn upon as clinical experiences create their demand.

CALCIUM THERAPY

The Fundamental Principle Underlying Rational Therapeutics. By John Aulde, M.D., Formerly Assistant Physician, Out-Patient Department, Jefferson Medical College Hospital, Etc. Philadelphia. John Aulde, M.D., 1928.

This volume is a compilation of numerous shorter papers by the author, published in various journals

since 1894. The basic thought of his rather elaborate system of therapy is "that in all forms of disease, both acute and chronic, there is a tendency to acid excess, the result of which is a depletion of the lime content, while the magnesium remains in the system and effects a chemical combination with the nerve structures, interfering with the function of the cells * * *". He further postulates that calcium is antagonistic in its action to magnesium and upon such an assumption advocates calcium for the relief of most diseased states. Observations seem to have been made for the most part upon the effect of calcium iodide. Little or no credit is assigned the iodide radical in the drug, however, since the author states that equally good results may be obtained by the use of other of the lime salts. There is but little in the volume which appears to have been scientifically demonstrated, and one is impressed that the author has depended for proof of his theory upon deduction and "clinical observation" to the complete exclusion of recognized scientific methods. There is much tedious repetition in the various chapters, and the case reports and testimonials lack completeness demanded by painstaking scientists. The fact that the concept has remained unmodified for twenty years of course offers no proof of its wisdom but does commend the steadfastness of its author.

OBITUARIES

(Continued from page 82)

In 1895 the Iowa Medical Journal, first organized by Dr. J. C. Hughes of Keokuk in 1850, revised by Dr. Kime in 1900, was taken over by Dr. E. E. Dorr. In 1906 the Iowa State Medical Journal contracted with Dr. Dorr to publish the transactions of the Iowa State Medical Society for a period of five years. In June, 1914 the Journal of the Iowa State Medical Society purchased the Journal of the Iowa Medical Journal.

Dr. Dorr came to Des Moines with his parents when about six years of age. Dr. Dorr was deeply interested in public school matters, and frequently enlisted other members of the Polk County Medical Society to form committees to visit the schools and to inquire into sanitary conditions, and what could be done for their improvement.

A NEW JOURNAL

The College of Surgeons of Australasia, which has been in existence for a little more than a year, started publication of a journal last July as its official organ. It will be published three times a year, with the hope that in the not far future it may become a quarterly. The title is The Journal of the College of Surgeons of Australasia which includes New Zealand.

The Journal of the Iowa State Medical Society

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No. 3

THE INJECTION TREATMENT FOR VARICOSE VEINS AND ULCERS*

A. P. STONER, M.D., F.A.C.S., Des Moines

The modern treatment of varices of the lower extremities by means of intravenous injection of sclerosing agents, dates back to experiments begun by Borcheds¹ in 1910, and by P. Linser in 1911, but the treatment was not perfected until 1919 to 1921 when Sicard of Paris succeeded in closing the lumen of varicose veins by producing an aseptic inflammation of the endovain with an injection of a concentrated solution of sodium carbonate into the cavity of the enlarged vein. Sicard² first had his attention directed to this method of treatment upon observing that certain solutions when repeatedly injected into normal veins often resulted in their painless closure. Borcheds in his article states that being unable to puncture a vein in the arm in a syphilitic patient, he introduced a 606 solution into a varicose vein in the leg, the vein injected was subsequently obliterated. To P. Linser³ of Tubingen, Germany, must be given credit for the first successful use of an escharotic intravenous injection for the cure of varices. He made use of mercuric chlorid after having noticed its sclerosing action on normal veins in the treatment of syphilis. Coincidentally with Sicard and his co-workers Paraf and Forestier, he treated varices using this agent until 1923, when changes were made to sodium chlorid and sodium salicylate injections, which were found to be just as effective and much less dangerous in their actions. Attempts at obliteration of varicose veins by means of injection of caustic solutions prior to these investigations are of historic interest only. Efforts failed in accomplishing the results desired, because the solutions used were too caustic in their action; produced immediate clotting of the blood, and too often were followed by infective thrombophlebitis and periphlebitis. Linser adopted the use

of sodium chlorid in 20 per cent solution. Sicard chose sodium salicylate in from 20 per cent to 40 per cent solutions, and Nobl of Vienna has made use of grape sugar in 50 per cent solutions.

EFFECTS

These products affect the closure of the diseased varicose vein, but if injected into the normal vein, they produce no sclerosing action whatsoever. Jentzer of Geneva has shown that the solutions used completely infiltrate the vein wall following the course of the lymphatics and vasa vasorum, setting up at once a venitis, but with no tendency to clotting of the blood in the vein; the clot comes later. Bazelis has removed portions of the injected veins at various intervals after the injection was made. Twenty-four hours after the injection, the endothelium is thickened but no clot is found. After forty-eight hours the vein is smaller due to enlarged and increased number of endothelial cells and fibrin deposits, and at the end of eight days the clot is strongly organized by the addition of granulation tissue. During the next fifteen days the organization proceeds with the disappearance of the normal muscular coats, and supplanted by connective tissue and an increase of vasa vasorum. At the end of three months the vein is reduced to a mere fibrous cord. The clot from its earliest formation until the closure of the vein is firm and tenacious.

The distress and discomfort suffered by patients with varicose veins and ulcers, often wholly incapacitating and rendering many of them more or less invalids throughout life, brings to us an appealing cry for relief. Until recently, however, little encouragement could be offered. Operative treatment which requires hospitalization for a number of days or even weeks, certainly has not offered a great deal of hope, and patients have been loath to give up their long saphenous, or to submit to painful scar-forming operative procedures with so little promise of a cure. Saphenectomy and saphenotomy destroys only the main venous return current, leaving the tributary system of varicosities untouched, so, that, when the

*Clinic presented before the Polk County Medical Society at the Iowa Lutheran Hospital, Des Moines, Iowa, November 27, 1928.

patient after leaving the hospital bed, and again gets about finds it necessary to resort to the elastic stocking and leg bandage.

ETIOLOGY

Practically all cases of varicose veins are traceable to obstruction of the circulation, many are of congenital origin, and most of the others carry a history of infection, namely; thrombophlebitis following traumatism, childbirth or surgical operations, infective fevers, etc.

PATHOLOGY

The pathology may be found in any standard text-book on pathology, and will not be discussed here, except to state that in the degenerative process that takes place within the vein, a thrombus forms and becomes organized, closing that portion of the vessel completely. The valves of the saphenous system are destroyed, and in the advanced degree, the circulation becomes retrogressive, with the flow downward, finally reaching the deep venous system, whence it proceeds toward the trunk but only to lose a part of its volume again in the vicious circle thus formed, moving so slowly that stagnant blood remains in the external system for an indefinite period. Jentzer of Geneva has carried out experiments with radioscapy and radiography using a 20 per cent solution of strontium bromid, and demonstrated that the injected solution follows a course opposite to the ordinary flow of the blood in the veins; likewise, Forestier of Aix-les-Bains, using iodized oil as an injection found that the flow if not reversed was at a standstill or moved very slowly while the patient was in a recumbent posture, the leg being at rest; but when active motion of the leg was exerted, the contraction of the calf muscles produced a suction action upon the opaque liquid injected which finally disappeared into the deep seated veins. The solution when injected into a varix not only traverses the principal tortuous and dilated vein, but extends to the lateral veins from the point of puncture, and thus the obliterating process is very much more extensive than possibly could be accomplished by the removal of only the main vein stem as in saphenectomy. The obliteration of the diseased veins by sclerosing agents in most cases takes place without pain and without notable disturbance to the deep circulation. The patient is not incapacitated. The injection in itself requires no anesthetic, and a cure of an average case of varices is effected within a fortnight. The cure of the varicose ulcer of average size will require from two to six weeks.

TECHNIQUE

A number of solutions have been used with success. Sodium carbonate in concentrated solution being among the first. While this salt is an excellent sclerosing agent it has only an historical interest because of its caustic action. The slightest fraction of a drop accidentally finding its way outside the vessel during an injection, produces a destructive action and slough. The principal solutions now in use and recommended are as follows: common salt in 20 per cent solution, sodium salicylate in from 20 to 40 per cent solutions, quinin hydrochlorid with urethan, and red mercuric iodid. Many other mineral salts are capable of bringing about the obliteration of the veins but I have confined myself to the use of sodium salicylate and sodium chloride solutions. The solution is made up fresh in triple distilled water for each injection, and is sterilized in the autoclave.

POSTURE OF THE PATIENT

The patient either stands upon an elevation or sits on the operating table with the feet resting on a chair with its back firmly against the table. In most cases the sitting posture is preferred, since with the legs hanging freely with the feet resting lightly on a chair or stool, the veins protrude more prominently than when the patient stands bearing his full weight on the extremities. In my work I have used no tourniquet to compress the veins during the injection. Thus far, I have not undertaken to inject the veins with the patient in the recumbent position. Sicard, Gaugier and Forestier, all give preference to the recumbent posture, since the veins are more or less completely emptied, permitting the injected liquid to come in contact with the intima of the vessel in a much greater concentration than is possible with the patient in the upright position. However, the difficulty of entering the vein and the danger of forcing the injected fluid outside the vein is much greater in the recumbent posture, the avoidance of which requires a refinement of technique not so readily acquired as may be imagined.

INSTRUMENTS

A 3 or 5 c.c., all glass Luer syringe equipped with the regulation spring brake for steadying the plunger is recommended. The brake is important since the heavy metal plunger of the Meeker type syringe, or the ordinary cheaper variety of glass syringe easily permits the fluid either to be forced out of the needle in droplets or in the reverse direction creating an air space in the barrel of the syringe on beginning the injection. A 25

or 26 gauge needle with a short bevel is used. Large prominent varicosities are easily entered. The needle, however, should not be thrust directly into the cavity, but should slide beneath the skin for a few millimeters before entering the vein, thus a valve-like opening is made through the integument and vein, that will effectively prevent the escape of the injected fluid. At no time should any of the fluid escape from the vein after withdrawal of the needle. The needle after being inserted should be held firmly as the piston of the syringe is withdrawn to ascertain if blood is aspirated into the barrel. Then, if the needle is known to be within the vessel, the solution is slowly injected. If during the process the patient cries out with pain or if for any other reason it is feared that the needle has become dislocated, the injection must be stopped immediately. It must be remembered that one is dealing not with normal structures but with thin walled tortuous various sized pathological veins, using powerful escharotics that will produce a slough should it find its way into the perivascular tissues. In this connection it may be well to quote the language of Dr. H. O. McPheeters⁴ of Minneapolis, who after having treated more than 300 patients by this method, and contributing several classic articles on the injection method, and made critical reviews of the world's literature on the method has this to say: "In compiling this paper it is not our aim to deprecate the injection treatment of varicose veins. On the other hand we are very enthusiastically convinced of its efficacy. But, in order that those whose experience has been limited may not through carelessness or errors in technic become disappointed with the method and thereby bring into disrepute this mode of treatment, we aim to point out a few of the possible complications and pitfalls that may be encountered, even though rarely". The injection is carried out slowly, the needle is left in for a minute or so and the puncture is compressed with the finger for a few minutes to prevent escape of the injected fluid. It makes no difference in what direction the injection is made, the tendency being for the fluid to fluctuate downward. Each injection secures the closure of from 10 to 20 centimeters of the vein when 2 to 5 c.c. of the fluid is injected. In using a 30 or 40 per cent solution of the sodium salicylate the patient sometimes complains of intense cramps in the leg. It lasts but a few moments however, and does not return. With the 20 per cent solution cramps seldom occur, but I have found it necessary to re-inject cases with a stronger solution after having failed to obliterate the vein with the weaker solu-

tion, so, now, I always begin with the 30 per cent solution. It is perhaps not quite safe to use more than 25 c.c. of this strength solution, however, I have used 35 c.c. with no untoward results. Ten to 15 c.c. is the amount usually injected at one sitting, treating three or four sections of veins at one time. At least four days should intervene between injections.

CONTRAINDICATIONS FOR TREATMENT

Old persons with enfeebled health should not receive treatment; however, age itself is not necessarily a contraindication provided nothing besides the varices show evidence of disease. A physical examination is always essential before beginning of the treatment. It is particularly necessary to establish the condition of the heart and kidneys. The urine should be examined for sugar. The treatment should be withheld in cases having recently suffered from infective phlebitis, as latent microbic activity may be aroused by the injection of an agent whose purpose only is to set up a harmless inflammatory reaction. Extensive edema of the legs with but slight varices, indicates involvement of the deep system of veins. Injection of a few of the superficial veins in such a case would not improve the circulation of the limb. It is advised not to undertake the treatment of cases of varicosities extending high upon the thigh at the groin and lower abdomen. The injection is interdicted in varicosities accompanying pregnancy. Forestier,⁵ avers that varices accompanying pregnancy are not due as it was first assumed, to the compression of the pelvis veins through the dilated uterus but to transitory troubles of the endocrin glands which disappear after delivery.

GENERAL RESULTS

The treatment in the vast majority of cases results in a permanent cure of the varices and the accompanying ulcers. A small number of cases have returned after a few weeks or months, that have required reinjection on account either of recanalization of an undertreated vein or enlargement of smaller sections of veins that have enlarged since the treatment was completed. These recurrences have been noted in not to exceed 15 per cent of the cases treated and a second series of injections have cured a majority of such cases. In most cases the vein is reduced to a solid flat cord that can scarcely be felt beneath the skin and cannot be seen.

The most pronounced cases are cured with but slight if any painful reactions; the patient is at no time confined to bed. They leave the hospital in from thirty minutes to an hour after the in-

jection. The pain during the injection is negligible, however many patients are apprehensive and emotional patients may faint. Such patients are best treated in the prone position. Sloughs occasionally are reported in all clinics, and perhaps they are unavoidable with the technique as practiced at the present time. They are slow to heal but they do eventually heal. Before the use of sodium carbonate was given up this mishap was of frequent occurrence. Perivenitis is more often noted and may require the use of hot moist dressings. I have not had to resort to such measures but a soreness and tenderness has been complained of on the following two or three days, over a small area at site of a previous injection. There is some discoloration and slight puffiness of the tissues which lasts but a few days at most. Pulmonary embolism has been noted following the injection treatment and deaths are attributed to pulmonary embolus, however, since but seven deaths from all causes out of 53,000 reported cases treated it may be set down as a fact that the injection treatment in competent hands carries with it practically no fatalities. It is understood that the sclerosing agents as used in the treatment do not of themselves produce coagulation of the blood, but that the final clot comes only as a secondary process through a proliferative process of the endothelium and fibrous tissue development with deposits of red and white cells and not until the third day is the clot fully formed and soon it appears as a component part of the vein wall and can scarcely be detected.

The patients I show here tonight have been given the treatment in this hospital, and represent fairly typical cases that are amenable to treatment by the injection method. As you will observe, all of them are cured.

The first case, Mrs. W. W., age sixty-seven, had varicose veins for fifteen years. She is the mother of six children. There were extensive varicose veins extending from the mid thigh to the ankle of the left leg. The varices occupied the internal and anterior aspect of the leg occupied by the long saphenous vein and its tributaries. Just above the internal maleolus an area 2 cm. by 4 cm. was occupied by an ulcer. Both legs appeared somewhat swollen. Fully half of the left lower extremity was involved in large patches of eczema; also large areas of eczema were seen on the right extremity, arms and trunk, all of which showed punctate bleeding points and irritated areas left from scratching. To say that this patient's condition was deplorable is putting it mildly. She was injected July 30th, with 30 per cent solution of sodium salicylate: 5 c.c. being

injected above the knee, about 25 c.c. in all being injected. The ulcer was treated with 20 per cent silver nitrate solution, dressed with a generous supply of gauze over which was applied several layers of sheet wadding as recommended by McPheeters. Over this was applied a rubber sponge and the whole leg tightly wrapped with an ace bandage. This bandage was applied just before she left the hospital, about one hour after the injection was completed. The remainder of the varices were injected on August 3rd. At the end of two weeks following the last injection the varicosities could be felt as hard nodules or firm flat cord-like enlargements beneath the integument. The ulcer at this time was showing signs of improvement and was healed entirely within another fortnight. A paste dressing similar to the one first suggested by Unna was applied to the leg at this time and was worn for three weeks. November 12th another collection of veins more or less prominent, just below the knee, were injected with 5 c.c. of 30 per cent sodium salicylate with the hope of improving a painful knee joint, which had annoyed her for several months prior to treatment. At this time two weeks hence she tells us that she has been entirely free from this pain. While the eczema is not entirely obliterated, the few small patches here and there are giving her very little annoyance, and with proper care this condition should improve still more. As you will observe the varicosities are all eradicated and the patient expresses herself as feeling comfortable and well—a picture so entirely different from that presented when she limped into the hospital for her first treatment.

The next patient, Miss G. B., age twenty-five, stenographer, has had a patch of enlarged discolored varicosities on the inner aspect of the left lower extremity below the knee for several years. Her mother, she states, has varicose veins and an ulcer. This young lady complained chiefly of a feeling of weight or heaviness but had no particular pain. She desired to have the condition corrected because the veins showed so prominently through her silk hose. August 3rd, the veins were injected with 5 c.c. of sodium salicylate 30 per cent solution. This was one of the simplest and easiest cases with which I have dealt, yet a little mishap occurred in which a small amount of the fluid found its way outside the veins injected, which resulted in a slough no larger than a shirt button, that required two months to heal. The varicosities all disappeared within a week, and she will tell you that she now wears the sheerest of flesh colored hose without attracting attention.

Mr. A. N. L., the next patient, is a farm hand fifty-one years of age, and has had varicose veins for twenty years. He had an unhealed ulcer 2 cm. by 5 cm. on the inner aspect of the lower third left leg. He was given two injections the first on August 25th. The ulcer was completely healed in five weeks, and the veins were all obliterated soon after the second injection was completed. This man was referred to me by Dr. Ward of Grimes, Iowa. He was obliged to quit work on the farm on account of the excruciating pain. Four days following the first injection he was free from pain and took a new job on a farm at increased wages and has not lost a day in the field since.

The next patient shown you, Mrs. N. N., a cook, fifty-two years old, a widow, had to give up work because of varicose veins of enormous size in both legs. Knots of veins larger than one's thumb were seen above the knee, in the popliteal space, and below the knees. An angry ulcer 4 cm. by 7 cm. appeared just above the left ankle which had been present since August 1st. This lady was obliged to use crutches. She had her first injection September 13th and another on the 28th. I injected a total of 35 c.c. of 30 per cent solution of sodium salicylate at the second injection with no untoward symptoms following the procedure. The ulcer healed slowly and required skin grafts. The patient complained of burning pain more or less constantly in the region of the ulcer, and more than once called me at night by phone seeking relief. All along I had noticed an untreated vein just above the upper margin of the original ulcer. I injected this vein with 2 c.c. of sodium chlorid 20 per cent solution at my office on November 17th. The ulcer at this time was about one-half inch in diameter. The patient tells us tonight that the irritation ceased within twenty-four hours following the injection and you will note that the ulcer is completely healed. This vein had communicated directly with the ulcer. All of the veins are completely closed, the patient gets about with ease and has taken a new job as cook in a busy restaurant.

Another patient here tonight, Mrs. C. J., comes all the way from Mt. Ayr, Iowa, to present herself to you. She has suffered many years from large varicose veins of the right leg. She has had two or three ruptured veins but no ulcers. She has worn rubber elastic stockings or bandages for a number of years. She received an injection in the hospital here September 29th, and comes here at this time for a second injection, to have obliterated a system of large varicose veins coursing along the dorsum of the foot from the

ankle to the great toe. These veins will be injected tomorrow with 20 per cent solution of sodium chlorid, after which she will return to her home. She is comfortable and entirely well and the closure of the veins on the dorsum of the foot is a matter of little importance.

The last patient I shall present to you, Mr. A. G. D., is a railroad switchman in the yards here. He has followed this vocation for thirty-five years. He is sixty-six years old and has had varices in both legs for twenty years. The veins were of moderate size but involved considerable areas. He had no ulcers. The posterior system of the veins were injected November 8th, and on the 12th, the anterior veins of both legs were injected using each time sodium salicylate 30 per cent solution. On November 20th a patch of varices along the anterior border of the left tibia was injected. These veins were of small caliber and unsightly and as this patient was to be on exhibition here tonight I wished him to be as presentable as possible, accordingly I injected about 4 c.c. of 30 per cent sodium salicylate. I exerted perhaps some force in giving one of the injections and evidently forced part of the fluid through the thinned out wall of the vein. In any event an elevated area the size of a quarter of a dollar suddenly appeared around the puncture made by the needle, that soon showed evidence of an extravasation of blood. I immediately infiltrated the discolored area with 10 c.c. normal salt solution and massaged the site for a few minutes. You will note the inflamed area that shows evidence of ecchymosis, but it is undergoing absorption and I do not believe we will have any further trouble.

In conclusion let me say that the injection treatment has a definite place in the treatment of varicose veins and their sequelae namely; ulcer, eczema, and some vague joint pains; that it supercedes operative treatment for these conditions in that it carries less danger and is more prompt and certain in its results. It is practically painless and does not incapacitate the patient. Experience has shown that fatalities are so rare that fear of death resulting from the procedure may be dismissed. The contention that the irritating fluids such as are used may produce a thrombus with pulmonary or coronary embolism is not supported by clinical nor the pathological findings. Remember, the clot that is formed in these cases is organized and tenacious, clings to the vessel wall as practically a part of it; in contradistinction to the weak friable clot that readily breaks loose, that has its origin in an infective process.

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ABSCESS OF THE LUNG*

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I have chosen to talk on lung abscess because I am convinced that it is a rather common occurrence in this vicinity and that a good many cases are not recognized and consequently not treated properly.

Etiology. Tuberculosis is the cause of more cases of lung abscess than all other causes, but tuberculous abscesses are not considered in this discussion.

The causes of lung abscess are several:

1. A sequel to operations in the mouth, nose or throat.
2. A complication of pneumonia.
3. Foreign bodies in the bronchi.
4. Metastatic emboli from suppuration anywhere in the body.
5. Trauma, especially from punctured wounds of the lungs.

Operations in the mouth and throat stand first causing from 40 per cent to 60 per cent of all lung abscesses, and a large majority of these follow tonsillectomies, although any operation in the mouth, nose or throat may have a pulmonary abscess as a sequel, a submucous resection, an operation on the ethmoid cells, sinus operation, an operation on the trachea or even the extraction of a tooth.

Inspiration Abscesses. These were for many years believed to be inspiration abscesses, caused by inspiration of material into the lung and consequent abscess formation, and a general anesthetic was considered a very potent adjunct, inasmuch as blood and infected material enter the bronchi and owing to the anesthetic are not coughed out, but remain and develop abscesses. Not uncommonly lung abscesses develop where local anesthesia has been used and Nesbit of Madison, Wisconsin, has shown that cocainizing the fauces of dogs so paralyzes the epiglottis that foreign material passes into the trachea unobstructed, and also that in patients having the fauces anesthetized as

for tonsil operations, lipiodol runs into the trachea readily by merely pouring it on the base of the tongue. From this it would be seen that the danger of lung abscess after tonsillectomy is just about as great after local as after general anesthesia.

Embolic Abscesses. Many lung abscesses are of embolic origin, even those that follow tonsillectomies. Emil Holman of San Francisco (Annals of Surg., February, 1926, vol. lxxxiii, page 240) has found that abscesses did not develop in the lungs of dogs when infected material was injected in the bronchi, while dogs very commonly developed lung abscess after injecting the jugular vein with the same material, and concludes that practically all lung abscesses following tonsillectomies are embolic in origin, and these emboli develop abscesses in the lung more frequently than emboli from operations elsewhere, because they are from an infected area.

Pulmonary symptoms develop after 6 per cent of all operations anywhere in the body, and it is pretty well established now that these symptoms are from emboli. Fortunately, most of these symptoms are transient being due to small infarcts or a slight pleurisy and disappear after a few days, while a few induce pneumonia and still less produce abscess. It makes little difference what anesthetic is used or whether the anesthesia is general or local. If the embolus is infected as it is quite sure to be if it arises in the nose or throat, some serious pulmonary condition is pretty sure to ensue; if it is sterile as it is apt to be from most other locations, its effects are more transient, unless it is large enough to plug a considerable part of the pulmonary circulation and in that case there will be a sudden death.

Doubtless some lung abscesses are from inspiration and some of them are embolic.

Clinically there are two types of lung abscesses that follow operations in the throat or upper respiratory passages.

1. Those that begin a few days after the tonsillectomy.

2. Those that begin thirteen or fourteen days afterward.

Those that begin a few days after tonsillectomy are due to inspiration or embolism of material contaminated with ordinary pus, bacteria, staphylococci or streptococci and the incubation period of which is short; those coming on thirteen or fourteen days after operation are more likely to be contaminated with anaerobes whose period of incubation is longer, and abscesses caused by anaerobes are very putrid and foul-smelling. The infection of the lung, however, may not occur at

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the time of operation, but a week or so later when sloughing at the site of operation occurs.

Not infrequently lung abscesses are found to contain the spirochetes and fusiform bacilli of Vincent's angina.

Abscesses following pneumonia are more frequent after bronchopneumonia, but sometimes they follow lobar as well. An ordinary pneumonia runs the ordinary course, but does not fully recover. The temperature may reach normal but comes up again and runs along generally low, from 100 to 102, but in some cases it runs a septic curve, jumping irregularly from high to low and back again. There may be chills; the patient feels badly, weak and loses in weight instead of gaining, and runs along this way for some weeks. He has pain or soreness in the chest and coughs a great deal, if the abscess breaks into the bronchus. The sputum is purulent and often sweet smelling and nauseating, but sometimes it is of foul odor. He becomes weak, emaciated, anemic, has night sweats and chills. The clinical picture is very like tuberculosis but is too violent for tuberculosis.

Up to now the picture is that of some suppurating condition in the lungs and it is necessary to find whether it is;

1. Unresolved pneumonia.
2. Tuberculosis.
3. Interlobular empyema.
4. Bronchiectasis.
5. Lung abscess.

Unresolved pneumonia I believe is a myth, and so-called unresolved pneumonia is merely some other undiagnosed lung suppuration.

Tuberculosis. It may require days or weeks of careful study to determine whether such a patient has tuberculosis or one of the other suppurating conditions.

Interlobular empyema may be very difficult to distinguish from lung abscess even to the time of operation, but that is not so important as drainage is the treatment for each condition, and it is only those cases of lung abscess that will require surgical drainage that can be confused with interlobular empyema.

Bronchiectasis is a dilatation of the large bronchi at or near the hilus together with a disappearance of some of the bronchial walls so that cavities of considerable size are formed in which foul-smelling or sweet odored pus is constantly formed. It differs little from an abscess near the hilus and requires the same treatment which is postural treatment, drainage through a bronchoscope or rarely artificial pneumothorax.

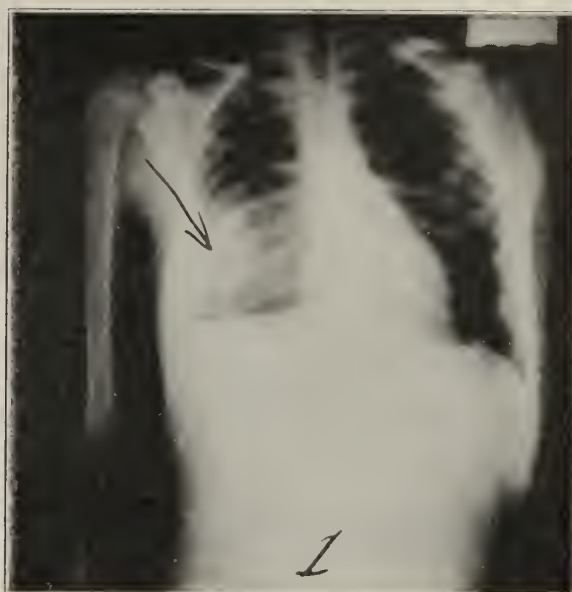


Figure 1. Abscess lower right lung. Cured by operation.

Foreign bodies in the bronchi if of infected material suppurate very soon and tend to produce either abscess or bronchiectasis, but if the material is non-infective, such as metal or glass, it may lie in the bronchi many years and not produce an abscess at all.

Metastatic Emboli. Aside from emboli following operations, lung abscesses often arise from emboli that come from suppuration somewhere in the body, boils, osteomyelitis, ischiorectal abscesses, fistulae, etc. Such lung abscesses appear to come on spontaneously until the point of original infection is sought for and found.

Diagnosis depends upon:

1. History.
2. Physical examinations.
3. Examination of sputum.
4. Bronchoscopy.
5. X-ray examination.
6. The use of lipiodol.

The history has already been discussed.

The physical examination is often unsatisfactory. To palpation there may be little or nothing suggestive, though there may be an increase of vocal frimitus over the affected area if it is superficial, and also dullness on percussion but if the abscess is located deep, there will be no dullness nor other physical sign. Auscultation may give moist or bubbling rales, an absence of breath sounds or nothing at all.

Examination of the sputum is important. Repeated stains for tubercle bacilli should be made and careful research for the spirillae and fusiform



Figure 2. Abscess upper lobe right lung. Cured by operation.

bacilli of Vincent's angina. Always mixed bacteria will be found such as staphylococci, streptococi and pneumococci. Sometimes elastic tissue can be found and that means abscess, and rarely pieces of lung are coughed up.

Bronchoscopy. It is no longer necessary to go to Philadelphia for bronchoscopy, and this method of examination and treatment is bound to become more common. Even now there are competent bronchoscopists in most of the medical centers in Iowa. Bronchoscopy is indispensable where there is a foreign body in the bronchi, and very useful in the treating of bronchiectasis and lung abscess, located near the bronchi. A weekly or bi-weekly drainage through a bronchoscope is of great benefit.

X-Ray Examination. The most important aid to diagnosis is the x-ray, not only does it lead to a diagnosis in most cases, but it also locates the abscess.

To the fluoroscope, there is an area of dullness where the abscess is located, and in some cases where air is in the abscess a bubble may be seen. There is also lessened motility on the affected side which can be seen, and there is absence of other signs of tuberculosis, for instance both apices may be clear, or clear up on coughing, which is not the case in tuberculosis. Then the position and size of the heart may be suggestive, it being small and vertical in most cases of tuberculosis.

But of more importance still are the plates which should be both antero-posterior and lateral. The plates especially if they are stereoscopic, lo-

cate the abscess and define it distinctly, and differentiate it from empyema and from tuberculous conditions. The abscess will be shown as simply a pneumonic looking area if the plates are made early, but later there may be a denser area where the abscess is located, and if it is partly empty, there may be a fluid level and a bubble of air above it. The apices will be most likely clear, and no ray leading into it or toward them—no Dunham's fan. The abscess will have clear spaces above, below and may be all around it, depending upon the size and location. The shadows of an empyema are practically always low and reach to the diaphragm and are large; the shadows of the abscess are where the abscess is located and rarely reach as low as the diaphragm and are in the main smaller than empyemic shadows. Empyemic shadows too are densest in their lower portions and at the periphery of the chest, while abscess shadows are generally densest in their middle which is mostly some distance from the chest wall. Where the abscess is empty or partly empty, the densest portion will be at the periphery of the abscess so an annular shadow will be shown and in rare instances a fluid level with an air bubble above it will be seen.

The use of lipiodol is a new and useful means of diagnosis. It is of little use where the abscess is located near the periphery, but it is of marked value in hilus abscess and in bronchiectasis. Lipiodol is best introduced through a bronchoscope into the trachea and large bronchi, but it can also be introduced into the glottis through a tube after the fauces and epiglottis have been cocainized. After it has been introduced x-ray plates are made and if an abscess is present so that the liquid can get into it, its cavity will fill and the plate will show it up nicely. If it is bronchiectasis instead of abscess, the lipiodol will pass into the dilated bronchi and follow then outward into the lung in various directions and the plate will show a central irregular mass with various branches from it.

Location of the Abscess. Most of the so-called inspiration abscesses are in the upper lobes, though they can be elsewhere. The pneumonic abscesses are where the pneumonia was as a rule and are therefore more often in the lower lobes, but sometimes an abscess will appear in some other portion of the lung or even in the opposite lung. These are either inspiration abscesses from inspiring the coughed up sputum or else abscesses from septic emboli.

Probably a majority of abscesses are located near the periphery of the lung, but many are deep

in the lung and far from the periphery. Such ones tend to break early into a bronchus because they are where bronchi are large and numerous, but one located anywhere may break into a bronchus. One would think that those located at the periphery would break into the pleural cavity and so complicate the condition with empyema. That does occur sometimes, but generally nature guards against that by adhering the visceral pleura to the chest wall.

To diagnose an *empyema*, the most useful and simple way is the use of the aspiration needle, but if the x-ray plates suggest an abscess, the needle must not be used because it is so likely to infect the pleura as it is withdrawn and so add an *empyema* to an abscess.

Treatment. There is no particular medical remedy that has much to offer. Expectorant cough mixtures, etc., do no good. In those abscesses caused by spirochetes, the use of salvarsan intravenously gives good results. Auto vaccines or stock vaccines are useless.

Patients should be treated much as tuberculous patients are—fresh air, sunshine, proper food—in a word hygiene. If the patient runs a temperature, he must be kept steadily in bed until long after all symptoms have disappeared. Often cases apparently recovered have a new flare up after any indiscretion.

Postural treatment offers much. That is, place the patient in such position as secures the best drainage. Have him lie on the opposite side from the one that contains the abscess so it will pour out into the bronchi and be coughed up, or elevate

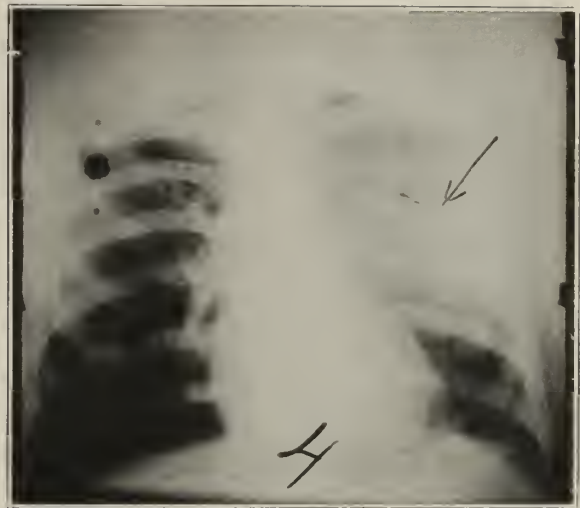


Figure 4. Abscess left lung internal to scapular margin. Cured by operation.

the foot of the bed if it be in the lower lobe, or elevate the head of the bed if it be in the upper lobe. Seek the position that insures the best drainage. Sometimes an unusual position like hanging the head and body downward over the side of the bed will empty the abscess, and even that may happen with the abscess located in the apex. That is because the abscess has opened into the bronchus in its upper part and this position allows it to empty. Such an unusual position should be assumed about every three hours; the patient lying in bed all the rest of the time. Such treatment will bring about a recovery in 40 to 60 per cent of cases. This treatment is most applicable to cases where the abscess is located near the large bronchi and consequently far from the periphery of the lung.

Bronchoscopy is useful in cases located near the hilus, but it is in just such cases that postural treatment is of most use.

Artificial Pneumothorax is useful in some early cases when the abscess is about the hilus, but it seems to me its field of usefulness is small.

There are two methods of operating, the one stage operation and the two stage operation. After the abscess has been carefully located by x-ray, and the plates show a decided dense shadow, not merely a pneumonic-looking area, one or more ribs should be resected for four or five inches directly over the abscess, and the parietal pleura opened. If the visceral pleura is found adherent to the parietal the abscess can be opened at once. This is the one stage operation. If it is not adherent either the visceral pleura may be sutured all around to the parietal and the patient returned to bed a few days until the



Figure 3. Abscess right lung under scapula. Cured by operation.



Figure 5. Abscess right lung at the hilus. Improved by postural drainage and in fairly good condition after three years. Although patient is eighty years old.

pleurae are well adhered, or else the wound may be packed with gauze for several days to secure adhesion of the pleura. This is the two stage operation.

In attempting to suture the visceral to the parietal pleura, sometimes one gets a pneumothorax, and that will prevent the very thing he is trying to secure, viz., adhesion of the two pleurae.

The second operation can be done without an anesthetic. The abscess can be located with a needle, and a blunt forceps passed down beside the needle and spread open and then withdrawn, and a very soft walled drainage tube, or rubber tissue, inserted or else gauze. Gauze does not drain pus well, but in case there is considerable hemorrhage, gauze stops it better than anything else. If gauze is used the opening in the lung must be larger.

Care must be exercised in the use of the needle; it must be large in order to let thick pus flow through it and if a large artery is punctured, the hemorrhage may be very severe. The blood-pressure in the pulmonary arteries is only one-sixth that of the general circulation, so a bad hemorrhage from puncturing a pulmonary artery is very unlikely, but the lungs have two distinct circulatory systems, the pulmonary which has to do with the aeration and the general circulation which supplies nutrition to the lungs, and an injury to one of those arteries is dangerous.

Some incise the lung and locate and open the abscess with the finger and that is a very good

way. Some open the abscess with a cautery which also is a very good way.

If the abscess is large it will be easy to find, but if it is small, it may be quite impossible to locate it. Then, also abscesses are sometimes multiple, and you may locate it and drain it and leave others undrained. If the abscess is empty, it is hard to find. Sometimes a gust of foul gas escapes and when that occurs, you can be sure you are in the abscess.

SYNOPSIS

1. Abscess of the lung is very common and often not diagnosed.
2. It is serious and has a high death rate, no matter how well treated it is.
3. More cases follow operation on the throat and nose than anything else.
4. Some are inspiration abscesses and some embolic.
5. Some follow pneumonia and especially bronchopneumonia.
6. Approximately half of the cases will require surgical intervention.
7. Medical treatment:
 - (a) Drugs are of no use except salvarsan in those abscesses caused by spirochetes.
 - (b) Vaccines are of no use.
 - (c) Hygienic treatment is the first defense.
 - (d) Postural treatment is very useful especially in abscesses located near the hilus.
 - (e) Pneumothorax has a small field of usefulness.



Figure 6. Typical right-sided emphysema.

(f) Bronchoscopy is indispensable in foreign bodies and useful in bronchiectasis and abscesses located at the hilus.

Surgical treatment approximately 50 per cent.

One stage operation.

Two stage operation.

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GREEN FIELDS OF THE COUNTRY PRACTITIONER*

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1. THE OLD FAMILY DOCTOR

It appears that about 95 per cent of all persons offering testimony, in the court of public opinion, are willing witnesses to the drab fields of the country practitioner. Offhand, one might question such a broad and sweeping observation. The fallacy of the proposition, however, lies in the fact that most people fail to differentiate between the family doctor of days gone by, who commanded the implicit confidence of those he served, and the country practitioner of today, who does not.

The Old Family Doctor reached the zenith of his glory about fifty years ago. Once established, he was the outstanding character in his community; and, next to the parish priest, carried more sacred confidences about with him than any other citizen. He was a product of the country. He lived his life amongst the country people. He blazed few trails in the unexplored fields of scientific medicine. But, he was a master of the art of human understanding, human sympathy and self-sacrifice.

Imbued with these elements of human appeal, his mandates were observed with implicit confi-

dence. Right or wrong, he was the trusted advisor, the undisputed leader, the recognized authority in all matters of physical distress.

Beyond question, whatever success accrued to him was due, at least in large measure, to the unlimited confidence the people reposed in him.

At that time, medicine was almost wholly an art, practiced empirically, and strongly tinged by the occult sciences. Even now, in face of the fact that modern medicine is undeniably a basic science, the traditions of mysticism prevail in many quarters—hence the pseudo-cults.

Borne along by the current of public confidence, the Old Family Doctor kept an even keel until dawned the age of scientific research. Then, every field of human endeavor became involved.

As to medicine, a veritable cataclysm was the result. Theoretical landmarks, that had weathered the storms of ages, were swept away as if by a breath.

When the medical profession took stock of itself, it was discovered, among other things, that there were far too many doctors in the ranks with little or no learning; qualification requirements, in some sections, amounting to little more than a riding horse, saddlebags and a patient; whereupon the arrogant possessor was legitimately recognized as a practitioner of medicine and hailed as "Doc".

This situation was a matter of no small concern to those of standing in the profession, and leaders of the American Medical Association, as well as those at the heads of independent societies, set quietly about to build up a barrier that would serve two purposes: first, to protect the public against the mystifying, unscrupulous and incompetent quacks; second, to check further admission into the ranks of medicine, which was already crowded to the limit of toleration.

This was accomplished in a remarkably short period of time by acts of the various state legislatures, and such regulations as could be issued by authority of the state boards of health.

During this period, the public manifested little or no concern in health affairs and, for a time, the open lanes were closed to the free-lance, which served to check the growth of unworthy membership in the ranks of medicine.

But, it was for a short time only. A number of low grade medical schools sprung up, due to the fact that some states were slow to fall in line and assist in the establishment of a minimum standard of educational requirements.

The result was inevitable—low grade students and a large out-put of incompetent practitioners.

*Presented before the Wapello County Medical Society, December 18, 1928.

It must not be inferred that this is a charge against any considerable number of medical schools of that period, either large or small. The colleges, themselves, were not slow to take cognizance of the situation and through the Association of American Medical Colleges a minimum standard of entrance requirements was adopted.

But the machinery of the cheap schools continued to function, and the output of its products increased amazingly.

Again, the medical profession became disturbed, and justly so. Small riots occurred within the ranks. A feeble appeal to the public failed to elicit any worth-while support, for the peoples' confidence in the "Family Doctor" was not yet greatly disturbed.

The furore reached its climax about thirty years ago, when the first gun in the American medical war was fired. Like the famous gun that went off at Bunker Hill, that shot has been heard around the world. It was a bull's-eye shot. It hit the Old Family Doctor amidships, and pierced the armor-plate of confidence that shielded the entire profession.

The shot that wrought havoc was the accusation of fraud and incompetency by a few "higher-ups" against the rank and file of the profession.

The results created a fine topic for the scandal-mongers and feature writers of newspapers and magazines. And they were not slow in passing the news to a horrified public that, at least, 50 per cent of medicine, and its allied branches was, and always had been, nothing but unadulterated bunk.

And, they quoted Osler to prove it!

The long years of controversy closed with the reorganization of the A. M. A. New policies were evolved. The new officers in control embarked at once upon a plan to solve the one great problem—the matter of reducing the annual output of medical colleges in such a manner as to check permanently the over-crowding of the profession, which was good neither for the profession nor society.

They established a Council on Medical Education, and it set about at once, both by study and inspection, to classify the 162 medical schools then in existence. In due time, a standard of requirements both as to curriculum and teaching equipment, was submitted to all the colleges, implying a demand with which it was physically impossible for many of them to comply. Classification, with detailed reports and recommendations, followed.

The scandal thus once started grew apace with the years under the pretense of "Raising the

standard of medical education to a level with the schools of Europe". Now, less than half remain. Up to the present time this policy has been maintained, strengthened year by year by legislative acts, and vigorously supported by state licensing boards.

As to results, I quote as follows from an editorial in the Journal A. M. A. on the annual report of the Council on Medical Education and Hospitals, published August 18, 1928: "Since 1922 the number of medical schools in the United States has fluctuated between seventy-eight and eighty. With the gradual strengthening of the methods of licensure, however, it is believed that the end of low grade schools is not very far away. There are now seventy-two medical schools in class A, two medical schools remain in class B, and six in class C. During recent years, the tendency in medical schools has been to concentrate teaching in new and enlarged plants, whereby the laboratories will be in closer contact with clinical teaching. Through these larger plants, coupled with more teachers, more laboratory equipment, and more abundant clinical material, the eighty medical schools have been enabled, during the last six years, to increase their total enrollment from 14,000 to more than 20,000 students. It is believed that they will maintain an ample capacity to care for all properly qualified students who apply for admission."

And from a report of the Council on Medical Education and Hospitals published in the A. M. A. Bulletin, May, 1928: "The physical reorganization of medical schools has been practically completed, but much remains to be done toward revising of curriculums, improved methods of teaching and other internal improvements."

So, it appears, the outstanding purpose of reorganized medicine is an accomplished fact. Pre-medical education requirements have been set above those of any other profession in this country. The study of medicine proper has been lengthened to five years.

In 1910, when the population of the United States was about 93,000,000, there were 4,113 graduates. In 1928, with a population estimated at about 120,000,000 there were 4,070 graduates from the medical schools of this country, the last year being the first since 1910 to reach the 4,000 mark.

Much opposition has developed in many parts of the country to a continuation of this policy. Especially is this true in the rural districts. But in order to discuss the problem with any degree of understanding, it must be borne in mind that society is divided into two sections, rural and

urban, of which the former now constitutes about one-third.

Thirty years ago such a division, from the medical viewpoint, would have been ridiculous. The public, or society rather, manifested very little concern in medical affairs, even at that late date, other than to choose from a full field, in times of distress, the physician who had sufficient tact to win its confidence.

There has been a rapid change in the sentiment of the present generation, and society not only finds itself divided now into urban and rural, but medicine, as well.

2. THE URBAN PRACTITIONER

Generally speaking, the Urban Practitioner has had fair sailing, and a pleasant and profitable journey, up to within recent years.

In the beginning of modern economic society, he, like his rural brother, the Old Family Doctor, was the logical leader in many civic duties. He directed the establishment of hospitals. He guided municipal and voluntary relief associations. He supervised all matters pertaining to hygiene and public health. Then came the rush and swirl of a rapidly developing medical science, and he, imbued with the spirit of the times, was only too glad to shift such of those responsibilities as were possible to lay-boards, in order that he might have more time to devote to some specialty. Sectarian groups and social workers, backed by the willing philanthropist, were soon in command. And it has now grown to be, in many quarters, "Doctor, you do this", instead of "Doctor, what shall we do?"

The first clash of significance between the urban doctor and the active layman is the result of friction in the clinic situation.

Regardless of what may be said to the contrary, the underlying principle of real human endeavor is grounded in the laws of economics, few individuals, but no group excepted. The substance of the old theorem that the physician did not expect to reap his reward on earth, but in heaven, never was, from the public's viewpoint, very well grounded, and still remains a theorem.

On March 30-31 last, the second Annual Conference on Public Health convened in Chicago. Two papers were presented on "Free and Pay Clinics", one by Dr. E. H. L. Corwin, a doctor of philosophy, the other by L. L. Biglow, M.D., president of the Ohio State Medical Society. The object of the conference was to iron out the wrinkles in the clinic situation, Dr. Corwin presenting the layman's view, Dr. Biglow the physi-

cian's. Both papers were products of master workmen, but they evoked anything but harmony in the discussion that followed. In fact, the records show that the ironing garbled the wash, and the whole thing will have to be gone over again.

Said Dr. Corwin: "When I received the invitation to present for discussion at this meeting, the subject of 'Free and Pay Clinics' it was not accompanied by any instructions or injunctions. I felt, therefore, free to present it in a manner I thought most conducive to a consideration of fundamentals involved from the social point of view. I have accordingly, left out, as not easily debatable, the abundant statistical material I could have gathered for the occasion, and have limited myself to a rationale of the factors which underlie the social problem for which the name 'Free and Pay Clinics' is but a convenient integument, a euphemism.

"The social conflict involved is of a complicated and fundamental character. Traditions, interests and principles are in a clash. It is a clash between a class and the mass, between a tradition and a new social development, between the individualism of the physician and the organization of modern urban civilization, between professional scruples and the crass commercialism of the times, between chaotic thinking and ineluctable march of events."

Said Dr. Biglow: "Can we look with equanimity on the program of paternalism (it might better be called maternalism) that is represented in its appeal to the acquisitive instinct by the misuse of these clinics, paralyzing the initiative, and weakening the ambition of individuals in the middle class, taking the lime out of their moral and spiritual back-bones, making them soft in one aspect and hard-boiled in another, and adding them, as fresh and undesirable dependent accessions, to the ranks of the lower class? Is not this crumbling process by which the middle class is being subtly undermined, and the proletariat class enlarged in a manner exactly comparable to that unrestrained and lawless growth of a tissue in the human body, which is called cancer? How can we expect, in the fullness of time, that the results will be any less dire in the one instance, than they are known to be in the other?"

"Here let me say, with all the emphasis at my command, that no word of criticism is offered or intended by me, or by the profession in whose name I am speaking, against the free clinic, as such. Disease and injury in the lower class, and often enough among members of the middle class, are conditions which in many instances, are be-

yond the victims' abilities to cope with from the financial point of view. To the needs of this class who would suffer or perish but for the ministrations of the physician, the medical profession gives now, as it always has done, its services freely and gladly, and finds a rich reward in those reactions that were adequate compensation to the Good Samaritan.

"What we do object to, or should object to, is the exploitation of this charitable instinct by those self-appointed, soi-disant harbingers of the millenium whose eloquence taps the strong box of the wealthy philanthropist for the money to erect, on this charitable instinct of the doctor, the huge structure that is well financed in all its other working parts. If only he and those professional paid workers, who are regulating the time and effort of the physicians, as a general of an army disposes of his troops, had the vision to see that ever so much more is involved than the mere furnishing of medical attention to a lot of sick people, and that the true substance and meaning of this program lies not in the amount of physical distress relieved—that is what appears on the surface—but in the implication, tendencies and probable end-results, a flabby, spineless, dependent citizenship, ripe for socialism, communism or any other 'ism' that promises relief from the stern responsibilities and duties of life, then the opposition of the physician to the abuse of free clinics will be viewed in a light of something higher and more patriotic than the expression of selfishness."

Here are some of the high points in the discussion that followed:

Dr. William Allen Pusey, Chicago: "I was much impressed by both papers. I was particularly impressed by the main thesis of Dr. Biglow, and that is the serious implications that are involved in the trend toward medical socialism; whether we are to have a majority of the people treated by philanthropic agencies, or by the state, or are we going to have a condition in medical practice that stimulates an independent, virile society. To my mind, that is the very essence of this situation. The really big problem is not the effect on the medical profession, but the effect on society in general of the trend toward socialism, not only in medicine, but in many other directions. We have already, approximately, one in ten of the people gainfully employed in this country engaged in some sort of governmental or bureaucratic activity. As Senator Lodge, among others, has pointed out, this group, strongly drawn together by one common interest—that is, the maintenance of their position—does not have to be much larger before it can exert a dominat-

ing influence in government policy. The effects of that policy are already seen. I do not believe that Dr. Biglow, in any respect, over-estimated the importance of turning over our affairs to those groups.

"An argument has been brought up here about the number of physicians who send patients to clinics as evidence of the attitude of the profession toward the clinics. I do not attach any importance to that. In the first place, the number of men who think about the implications of these movements is few; in the second place, there is a large number of medical men who have been fortunate enough to get into the better places in medicine and they are not, as a rule, concerned about what happens to the rank and file of the profession. This applies exactly to this dispensary and hospital situation. The men who have jobs in the dispensaries, and the men who have jobs in the hospitals, are like the 'ins' generally; they are satisfied and glad to see things go on as they are.

"The real problem we have to meet is how to provide a competent medical profession for the whole country. It cannot be done by philanthropic or state-supported medical centers. There must be a widely distributed profession, and the less attractive that is made by the competition of this socialistic machinery, which does not have to be self-supporting, the more satisfactory will be the situation as a whole. We must have a medical profession that is not only efficient and competent, but also widespread. Things that interfere with that are unsound for the medical profession, and are unsound for a country that must have a medical profession."

Mr. John A. Kingsbury, Milbank Memorial Fund, New York: "Garrison points out, that at one stage in the history of medicine, mystic words of strange letter formation, were thought to have great influence in the cure of disease. To drive away a certain malady, one formula used was to require the patient to repeat over and over a bit of gibberish such as a-b-r-a-c-a-d-a-b-r-a. It seemed to spell 'Abracadabra'.

"Similarly, we often note the use of a shibboleth by those who, for one reason or another, fear, as a pestilence, some form of social progress. Repetition of words and phrases is still offered as a means of combatting things which are not understood, and which, being new, would change the procedure of our daily lives. In our discussion therefore, it is not surprising, although it is disappointing, to hear such gibberish as 'socialistic' and 'communistic' applied to innovations in the field of general health promotion. Such

terms often act as bugaboos to frighten persons with more superstition than habit of reason in their make-up out of some recently acquired inclination to develop in a new direction.

"There were in the second speaker's paper very evident slurs at social workers and paid physicians, yet there were admissions that there was great apprehension lest some of the pay of some of the physicians might be diminished if the paying clinics were permitted to develop much further. 'We have to live'. 'There is the acquisitive instinct.'

"The other speakers have let those slurs pass. I don't think they ought to pass. We speak of the great unselfishness of physicians here. I yield to nobody in admiration of the great service of physicians and I have had a great deal of experience in dealing with physicians. For four years I was commissioner of public charities in the city of New York. I appointed hundreds of them on medical boards of the public hospitals. I have dealt with them in public health work, and in private medicine. I know of no one who has done, and is doing, a finer service than the great unselfish physicians who are serving the public, often for nothing, in and out of those hospitals.

"But, ladies and gentlemen, let me tell you: if you sat in the office of the commissioner of public charities in New York City, or any other city, and saw the scramble of little physicians who are falling over themselves to get on the medical boards, to serve for nothing in this unselfish way, you wouldn't talk so much about it. Do not forget that side of it. Do not, for a moment, try to create the impression that physicians are the only ones that are really, in a big sense, practicing medicine. I picked up from Osler's 'Evolution of Modern Medicine' the other night, this statement: 'Dr. Payne, the great medical historian, says that the basis of medicine is sympathy and the desire to help others, and whatever is done with this end must be called medicine.'"

Well, Dr. Osler was a very great man—all glory to his memory. It is a pity however, so far as medicine is concerned, that what he said and wrote, received such wide publicity. Another instance, for example: "One might think, to hear them, that Osler was the father of the hundred and one cults. They quote him at length and show that he was a pessimist in that he had no faith in drugs. They bank on him in their attacks on the medical profession." The Medical Review of Reviews, April, 1926.

Other disturbing elements that are rapidly becoming serious problems to the urban practi-

tioner are: corporation practice, friction between hospital staff conferences and county medical societies; too much free service to lay health agencies, with prestige as the stake; too many doctors in the cities, which, as was the case in rural sections thirty years ago, leads to unethical methods in economic competition; and, over specialization which often results in an embarrassing expense to those who are willing to pay for necessary medical services.

3. THE RURAL PRACTITIONER

The Rural Practitioner is the rightful successor to the Old Family Doctor. But, like the pretender to the throne of France, his chance to regain the old time confidences of the public, his crown and sceptre, is lost beyond hope of possible recovery.

However, his difficulties seem to be decreasing in about the same proportion that those of the urban practitioner are increasing. He has little or no corporation, or contract practice to contend with; he has less contact with the professional social worker; he has little or no friction with hospital staffs; and his field is no longer crowded with competition.

The impression, somehow, got abroad fifteen or twenty years ago that the rural physicians, as a class, were the products of cheap medical schools. Newspapers and magazines were filled with medical school scandals. The public had lost over night, so to speak, most of its old time confidence in the profession, and it took a man of nerve to stick to his post at the cross-roads station, regardless of affluence or emolument. The fact is, many a worthy physician, rather than bear the stigma of an unjust charge, or engage in a hopeless defense, reluctantly pulled stakes, folded his tent, and trekked off to the city. In terms of finance, promulgated by a well known senator, that was the "deflation" period of the country practitioner.

Following this distressing period, and continuing on to the present time, there was, and is, a type of city doctor, generally sorely pressed from the economic viewpoint, who stressed, and continues to urge, the hospital as the clearing house for every kind of human ill. The thorough-going country doctor fully appreciates the value of hospitals in caring for the sick. He is equally appreciative, however, of the comforts and possibilities of the modern country home, in respect to the treatment of the vast majority of human ills. A good home, a good nurse, and proper sanitation, with a little weightier responsibility perhaps, on the part of the rural practitioner, will

produce results of hospital standards in 90 per cent of all cases. This statement is not original from my viewpoint, alone, but is the challenge of at least two past presidents of the A. M. A. And their judgment is backed by numerous men of equal responsibility in the profession. No physician seeks a mortuary liability, especially the country doctor. Therefore, it is logical to conclude that he will cheerfully direct the other 10 per cent to some hospital with specialist and laboratorian at hand. Rural people, as a rule, can afford to pay for that, but not often more. There is no doubt, however, that the country practitioner is sadly handicapped by hospital propaganda from one source and another. Here, for instance, is something worth thinking about, from the viewpoint of the country doctor:

The "Farmer's Wife", a St. Paul publication that seeks the sanctity of the rural schools in acquiring its subscribers, carries each month a feature article by one Carroll P. Streeter. In the August issue, 1928, under the caption, "Hospitals Make Farm Living Safer", among other things, the writer has this to say:

"Recently I visited four typical small hospitals—at Washington, Fairfield and Creston, Iowa, and at Canova, South Dakota—whose patients are chiefly farm people, and I found that the folks living in the country roundabout would no more think of getting along without these hospitals than they would their schools."

"Why, most of us have been in the hospital, or have had some member of the family there", explained one farm woman living eight miles from Washington, Iowa.

"For one thing, almost all the babies are born there, nowadays", said another. "My first three were born at home, but the fourth at the hospital, and I like it better there. It's getting so it's cheaper, too. You can hardly get the kind of hired help you need at such a time, at a reasonable price any more, and besides, the doctor bill is higher if you stay at home. Our hospital makes a special maternity rate of \$50 for two weeks' hospital care, in order to encourage folks to go there, and you just can't afford to stay at home."

The truth is, there are countless numbers of rural folk, only for the scare they got by such unwarranted propaganda, that would prefer to stay at home in clean beds, with sanitary accessories, even if the cost were greater. This is a cost price not much considered in so far as the patient is concerned. But the key to the whole situation is revealed in this missionary article a little further on: "And one of the fine things

about it", said one of the Washington, Iowa, physicians, "is that the doctor can get expert help in a hurry if he needs it—and every one of us doctors does need it sometimes."

"We have had five expectant mothers in the hospital during the last few months who developed Bright's disease. Because we had a laboratory and other facilities for keeping accurately informed as to just what was going on every day, we saved all five mothers. I remember cases just like these that died a few years ago, when we were not so well situated to care for them."

"We also save many new babies in the hospital every year, who probably never would live, if born at home. Not only do we have better facilities for bringing them into the world, but they get a good start during the first two weeks, when they are in the hospital. The country over, it has been found that more than 100,000 babies die every year during their first month of life—the most critical period of all. We see to it that the babies are properly fed and cared for until they go home; and then we tell the mothers how to go on feeding them correctly." Which leads to the logical conclusion that the day is not distant when the doctors of Wellman, Brighton, Kalona and other Washington county towns will have nothing to do but sit in their offices and draw their salaries.

But I am convinced that such a high-handed system of commercial advertising does not attach to many hospitals; and the situation at Washington, Iowa, is, perhaps, not half so bad as the feature writer in the "Farmer's Wife" has caused it to appear.

Chief among the other factors that have influenced, either directly or indirectly, the attitude of the public towards the rural practitioner is the Sheppard-Towner Act, and the Infant Welfare Society's activities; the workings of which have often resulted in switching confidence from the home doctor to the "Expert Physician", or "Baby Doctor", who often enough is a recent graduate with little or no practical experience, and who is employed at a cheap price by those in charge of such work, or by health boards working under their supervision. The evil workings set up by these systems of social practice, however, are much greater in the city than in the country where distance makes more readily available the services of the "Expert Physician" or the "Baby Doctor".

Little needs be said, as directly involving the rural practitioner, about such problems as the workman's compensation acts, periodic health examinations of policyholders by insurance compan-

ies, or the pay clinics, conducted even as is the Cornell clinic. Nor is his attitude toward the indigent sick in need of defense. But rural and urban physicians, united as they are through county units, should engage in a thorough study of the forces that are, either by chance or by design, surely leading on to the destruction of the honor and independence of the medical profession.

4. THE PEOPLE

A great deal has been said in recent years concerning the public's attitude toward the medical profession in general. It is a notable situation that can be discussed in terms of generalities. We have two classes of society—rural and urban—alike only in one particular, and that is both have questionable confidence in the individualism of the physician. A real family doctor is now a rare specimen, indeed. Some of the well-to-do of the middle class, and many of the rich, have their personal physicians; but the permanency of the arrangement is about as fixed as a piper is to the king.

"How are we to regain the complete confidence of the people, which now seems to be on the wane?" asks Dr. M. L. Harris in a paper published in the *Journal A. M. A.* of December 1, 1928. He continues by asking, "How are we to counteract the pernicious influence of the hundreds of lay organizations created for the purpose of bringing to the great masses the kind of medical services that they are in need of, and at a cost within their means?"

"This I believe can be done only by organization, not such an organization as we now have, but an organization for business, for the business of distributing a high class of medical care to all who are in need of it. I believe that every county society should organize as a business institution with headquarters properly equipped for handling all kinds of ambulatory cases. This should be a community medical center and provision should be made also for the care of all those who need hospitalization, or bed treatment. The service should be arranged for by the institution itself, each physician contributing a certain amount of his time and skill to the work.

"It is to be understood that this is not to be a charitable institution where service may be had free. Public charges should be paid for at reasonable rates by the county. Services to all others should be paid for at rates within their means as determined by their economic status. Those who are able to pay the regular rates of physicians should have their own, as at present. Such an institution should not only be self-sus-

taining but should be able to pay reasonable compensation to the physicians who are doing the work. Such an institution should be of great advantage, financially and otherwise, to the profession. It should keep control of the care of the sick within the confines of the profession and not allow it to drift into the hands of foundations and lay organizations."

That is about what should have been done in the first place, so far as the urban situation is concerned. The urban doctor, up to the present time, however, has had the least to say, from the economic standpoint and otherwise, of anyone in our medical scheme. The reason is obvious: the cities are the logical centers for shopping. But now the cities are crowded with physicians, surgeons and specialists for every kind of human ill. Besides, there are a hundred and one pseudo-cults, all flourishing. There are free clinics and dispensaries. There are part pay and high priced, widely known clinics and medical centers, so often referred to in the past by the medical profession, that it is now becoming fashionable among certain classes, in town and out of town, to go directly to the big centers for almost every type of medical service. Also, and over all, there is the ever growing group of social organizations with their forty-odd varieties of entertainment.

As to medical aid for rural folk, the situation is very bad, in general. There are plenty of shoppers in the country, but not so many as in the towns because money is more scarce. Nor, have they equal access to charitable institutions. Neither are they nearly so much interested in "Health Centers", forty miles from nowhere, as in having a doctor hard by when the emergency calls. Ten years ago they began to seriously consider some plan for relief. Five years ago they demanded of the medical profession a fair share in the spread of medical services. Now, it appears, they are bent on having it, even if they have to change the laws, and make up a new set of doctors.

From the viewpoint of both urban and rural citizenry, Dr. Harris' plan will have small appeal. The reasons are obvious. It is the key to the solution of the impending calamity that threatens the urban practitioner, however, and should have the whole-hearted support of organized medicine. There always has been, and always will be, the indigent sufferer. The profession has never neglected him, nor never will. But there should be very few charitable cases. There is no charitable beef or bacon. Taxes, fixed by law, or voluntary contributions, pay for it. Doctors pay taxes and make voluntary con-

tributions. And, if organized medicine will see to it that its members work for more pay and less prestige (which is but another road to the temple of the money-god) a most valuable service will be rendered, not in the name of humanity, but for humanity.

City editors, conveniently situated, and hospital organizations with great buildings to be filled, are generally of the opinion that rural people have little cause for complaint. They say they should go to the hospital when they get sick; or, build hospitals for themselves at home, with laboratory and x-ray equipment; of course, they must have a technician or so, and a sizable supply of trained nurses. Then, when the roads are made passable for all seasons, and an up-to-date consolidated school is put in working order, and the "Little Brown Church" is made to function, they will need only to secure a contract for a couple of thousand dollars, as a guarantee to cover living expenses, and they can have any kind of doctor they want!

The farm people have had enough of that sort of bunk. They realize their needs and know that such make-shift propaganda will never bring relief.

Lead by the National Grange, and backed by numerous other farm organizations, they presented a memorial to the House of Delegates at the last meeting of the A. M. A. clearly stating the situation, as they view it, and asking for help to solve the problem. Couched in diplomatic terms, the document carried an implied threat, however, in that, if the profession failed to lend a guiding hand, "It would be for the people to determine whether it would not be good policy, as necessity demands, for the states to build and maintain medical schools solely under public control and responsive to the needs of humanity".

For the first time in fifteen years, telling pressure is brought to bear upon the policy of the Council on Medical Education, by the introduction of a resolution on medical education, the substance of which was endorsed by the reference committee, to whom it was referred, and the House adopted the committee's endorsement.

Here it is:

"1. That it would be most desirable that medical students should graduate and enter practice at an earlier age than at present.

"2. The plan of covering the course in three years of four quarters each, instead of four years of three quarters, with an interval of long vacation, which is illustrated by the plan proposed at Duke University, and any other adequate plan of reducing the length of the medical course, is greatly to be desired.

"3. That the medical course is over-crowded with detailed considerations of specialties, and would be improved by a less crowded course confined to the fundamentals, and that efforts to this end be made."

CONCLUSION

I referred at the out-set "To the green fields of the Country Practitioner". I close by pointing to a few of the signs, as I view them, that are full of promise.

1. A service of value to one-fifth of the people of this nation is declared, by them, to be possible only through the medium of the country practitioner.

2. The country practitioner, if he wills, can be more than a guide post to the hospitals, and still meet comfortable living obligations.

3. There is a sense of felicity, difficult to explain, but undeniably self-gratifying, in that the country practitioner is now rated as an asset, instead of a liability, to the community in which he lives.

4. Fine homes, modern living conveniences, good schools and wholesome luxuries are available in almost every hamlet or village in the land. Besides, there are the open spaces and the green fields that do nobody harm.

What more could a man, whose duty it is to render a valuable service to humanity, desire or expect, from the social point of view?

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Associate Medical Officer Assistant Medical Officer

Applications for associate and assistant medical officer must be on file with the Civil Service Commission at Washington, D. C., not later than June 29.

The examinations are to fill vacancies in hospitals of the Public Health Service, the Indian Service, and in other establishments of the Federal classified service throughout the United States.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

On account of the needs of the service, papers will be rated as received and certification made as the needs of the service require.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

THE CONTROL OF SCARLET FEVER*

P. S. RHOADS, M.D., Chicago, Illinois

In 1923 Dr. George F. Dick and Dr. Glayds H. Dick published the results of work which definitely established a specific hemolytic streptococcus as the cause of scarlet fever. All of Koch's postulates, including the experimental production of the disease in man were fulfilled. It is upon this fundamental discovery that the present effective methods of treatment of scarlet fever are based.

The years of systematic study preceding the actual proof of the etiological agent had led the Dicks to the conception of scarlet fever as a disease whose general manifestations, particularly the rash, are caused by a circulating toxin; while the streptococci, which cause the angina, remain localized in the throat. Repeated blood cultures made at various stages during the course of the disease made at various stages during the course of the disease gave no evidence of a bacteremia playing a role except in severely complicated cases near death. On the other hand, by injecting relatively large doses of sterile toxin (the filtrate of 4 day old broth cultures of the streptococcus) they were able to reproduce the typical symptoms of scarlet fever, including the nausea vomiting, fever and rash in susceptible individuals.

The discovery of this specific toxin of scarlet fever enabled them to develop the following measures for combating the disease:

First: A skin test to determine which individuals are susceptible to scarlet fever and which are immune.

Second: A method of actively immunizing susceptible individuals so that they do not contract the disease on exposure.

Third: An antitoxin specific for scarlet fever for use after the development of the disease and to confer a rapid, temporary immunity on susceptible individuals who have been exposed to the disease.

Fourth: A method of recognizing scarlet fever streptococci.

These four applications of the discovery of the specific toxin together with the use of throat and nose cultures on blood agar plates furnish the means of controlling scarlet fever.

DICK TEST

The Dick test for susceptibility to scarlet fever is made by injecting exactly 0.1 c.c. of a stand-

ardized dilute solution of scarlet fever toxin into the skin of the forearm at the junction of the upper and middle thirds. The technic deserves special mention. It is important that the test be made at this location because the skin of the upper arm is less sensitive to scarlet fever toxin than that of the forearm. No control test is required. Only regular skin test or tuberculin syringes should be used, as accurate work cannot be done with ordinary 1 or 2 c.c. hypodermic syringes. The skin test needles used are recommended by the scarlet fever committee are one-half inch, twenty-six gauge, with soft metal nipples which can be readily molded over the syringe tip and thus prevent leakage—the "Summit" type manufactured by the D. & H. Co. Syringes and needles should be sterilized by boiling in water or by dry heat. Alcohol or other antiseptics should never be used for sterilization, because even minute amounts of such chemicals will destroy the dilute toxin used in the skin tests. Experience has shown that lack of careful attention to these details will always lead to inaccurate results.

The tests are observed twenty to twenty-four hours after they are made. Earlier readings will lead to the interpretation of a few negative tests as positive. Readings later than twenty-four hours will cause error in the other direction; that is, a few reactions faintly positive at twenty to twenty-four hours will have faded by twenty-five or twenty-six hours. Any degree of pinkness from the faintest flush to bright red one centimeter or over in any diameter is interpreted as a positive test, indicating susceptibility to scarlet fever. To avoid error and to have a basis of comparison when doing retests after completed immunizing courses the tests should be observed in a bright light and the reaction recorded in millimeters or fractions of a centimeter. Putting the skin of the arm on the stretch by squeezing while observing the reaction may result in error because it obliterates very faintly pink reactions.

With attention to all the above details and using accurately standardized skin test toxin, the Dick test may be depended upon to determine which persons are susceptible to scarlet fever. More than 40,000 skin tests have been performed by the scarlet fever committee. To our knowledge no person found negative to the Dick test has ever contracted the disease, while sixty-eight cases have been observed among persons reacting positively.

The number found positive in any group depends upon age and previous exposure to scarlet

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fever. In adults or in children in institutions where scarlet fever outbreaks have occurred within the past year or two not more than 10 to 15 per cent may be found susceptible, while in young children in communities where sore throats are quickly recognized and scarlet fever patients promptly and rigidly quarantined 70 to 80 per cent may react positively. In a series of 40,000 skin tests including all ages 40 per cent were positive and 60 per cent negative.

ACTIVE IMMUNIZATION

Persons found susceptible by the Dick test may be immunized by injecting gradually increasing doses of scarlet fever toxin. The dosage now being used by the scarlet fever committee is:

- A first dose of 500 skin test doses of toxin.
- A second dose of 2,000 skin test doses.
- A third dose of 8,000 skin test doses.
- A fourth dose of 25,000 skin test doses.
- A fifth dose of 80,000 skin test doses.

The doses are given subcutaneously below the deltoid at intervals of five or seven days. At times intercurrent illness or other things may necessitate longer intervals between two or more of the doses. If no more than three weeks elapse the next scheduled dose may be safely given. If the interval is slightly longer it is advisable to repeat the last dose given, then continue with the course as outlined above. When more than two months have elapsed between doses it may be safer to start again at the beginning. It is important that no animal serum be added to the medium in which the toxin is grown, in order to avoid serum sensitization. Two weeks after the last immunizing dose another Dick test should be done. Those reacting positively to the retest should receive a sixth dose of the same size as the fifth.

With the dosage outlined above 90 to 95 per cent are immunized to the point of a negative Dick test. Those still reacting positively on the retest almost always have a much modified reaction, indicating partial but not complete protection.

Reactions following one or more of the immunizing doses occur in many persons. The average local reaction consists of redness and some swelling about the site of injection. No abscesses or sloughs have occurred. General reactions are less common, but do occur in highly susceptible persons. The most severe include malaise, slight rise in temperature, nausea and occasionally a mild scarlatinal rash lasting a few hours. These symptoms usually appear within twelve hours and rarely continue beyond thirty-

six hours. They are never harmful. Reactions are more apt to follow one or more of the first three injections than the last ones.

A series of about 18,000 susceptible persons immunized included nurses and internes in contagious disease hospitals, school children in communities where scarlet fever outbreaks occur nearly every year and children in large institutions. To date no person immunized to the point of a negative Dick test has contracted scarlet fever.

An accurate estimate of the duration of the protection afforded is not yet possible. However, several institutions have been tested a year after the susceptibles were immunized. About 90 per cent of those immunized to the point of a negative Dick test were still negative on retest and those whose reactions had become positive still had much smaller reactions than on their original tests. On the other hand some persons of the small group which still reacted positively two weeks after the immunizing course were found at the end of a year to be no longer susceptible. A small group of persons immunized as long as three years ago, when the final injection was 12,000 skin test doses, have recently been retested. The majority of these are still immune. The present immunizing dosage totaling 115,500 skin test doses has not been in use more than a few months. However, there is every reason to believe that the immunity it produces will last at least several years.

So far it has not been possible to produce adequate immunity in susceptible individuals with less than 5 doses of toxin. There have been reports of successful immunization with one or two doses of a preparation of scarlet fever toxin said to be "detoxified" by the addition of sodium ricinoleate. Last year there was an opportunity to observe an institution where a commercial preparation of this material had been used. Of forty-one individuals who had received this treatment (without a preliminary Dick test) one to two weeks before our tests, 24 or 59 per cent were found to be susceptible to scarlet fever; a higher percentage of susceptibility than was found in those who had received no treatment. Two of these persons later contracted scarlet fever. Our tests on this ricinoleated material indicate that 1.0 c.c. contains about 3,000 skin test doses of free scarlet fever toxin—an amount too large for a safe initial immunizing dose, and too small for a total immunizing dosage. Severe reactions have followed the use of the ricinoleated preparations. So that it appears that the claims made for this material, both as to the im-

munizing ability and detoxification, are not well grounded.

USE OF ANTITOXIN

Scarlet fever antitoxin is made from the blood of horses which have received gradually increasing doses of sterile scarlet fever toxin over a period of several months. The serum of this blood is separated, then refined and concentrated and allowed to age. With these procedures, which are required of manufacturers licensed by the scarlet fever committee, it has been possible to reduce the number of serum reactions following scarlet fever antitoxin administration to a figure comparable with that following injections of other refined horse serums, such as the antitoxins of diphtheria and tetanus.

The strength of scarlet fever antitoxin is determined by its ability to neutralize the toxin. One neutralizing unit is that amount which will neutralize one skin test dose of toxin, and hold it in combination at least forty-eight hours. The therapeutic dose should contain at least 300,000 of these neutralizing units and the prophylactic dose at least 100,000.

Commercial preparations are on the market for which it is claimed that 1. c.c. neutralizes 50,000 units of toxin, the entire dosage of 10 c.c. containing 500,000 neutralizing units. To date no serum of this potency has been produced.

When claims for potency of more than 35,000 neutralizing units per c.c. are made they cannot be accepted without investigation, because the best scarlet fever antitoxin yet made is of no higher titer. Estimations of potency made through the use of skin tests in animals are likewise unreliable because animals are not uniformly susceptible to scarlet fever, and conclusions from animal tests are not applicable to human beings.

The therapeutic dose of antitoxin should be injected deep intramuscularly as soon as a diagnosis of scarlet fever is made. It is advisable to give it even in mild cases, because it is known that complications follow in mild cases as well as the more severe ones. If the attack is severe with the patient very toxic, two therapeutic doses should be given at once and more after eighteen to twenty-four hours have elapsed if it is indicated. In puerperal scarlet fever even more doses may be indicated. If the antitoxin is given early in the disease, a prompt fall in temperature and fading of the rash may be anticipated. The reports of the Dicks and Gordon on the therapeutic use of the serum at the Durand and Chicago Municipal Contagious Hospitals respectively, show that the antitoxin given early shortens the length of the febrile period and reduces the number of complications.

TABLES GIVEN BY DICK, G. F. and DICK, G. H.

THERAPEUTIC RESULTS WITH CONCENTRATED SCARLET FEVER ANTITOXIN

J. A. M. A., 84:803, (March 14), 1925

Table I

Results in moderately severe cases

	No. of Cases	Deaths	Post-scarlatinal Nephritis Per cent	Otitis Media Per cent	Mastoiditis and Otitis Per cent	Severe Cervical Adenitis Per cent	Total
Control Series	35	0	8.5%	14.2%	8.5%	2.9%	8.5%
Antitoxin Series	21	0	0	4.7%	0	0	1.1%

Table II

Results in severe cases

	No. of Cases	Deaths	Post-scarlatinal Nephritis Per cent	Otitis Media Per cent	Mastoiditis and Otitis Per cent	Severe Cervical Adenitis Per cent	Total
Control Series	15	20%	20%	20%	20%	33.3%	24.4%
Antitoxin Series	22	3.4%	0	6.8%	3.4%	3.4%	3.4%

TABLES GIVEN BY GORDON, J. E.
TREATMENT OF SCARLET FEVER WITH STREPTOCOCCUS ANTITOXIN,
J. A. M. A., 88:382 (February 5), 1927

	No.	Deaths	Nephritis	Otitis Media	Mastoiditis	Severe Cervical Adenitis	Arthritis	Total
Control	101	7	16	2	45	10	16 %
Antitoxin	197	0.5%	2.5	5	5	8	3.5	8.8%

Severe

	No.	Deaths	Nephritis	Otitis Media	Mastoiditis	Severe Cervical Adenitis	Arthritis	Total
Control	24	25	17	43	17	48	35	32 %
Antitoxin	70	4.3	3	13	3	25	3	8.1%

Total Including Mild

367	28	4.0	12	2.5	28	8
317	12	2.2	7	0.9	12	3

Clinical Course

	No. Cases	Duration of Eruption	* Duration of Fever	Days in hosp. after 28th day of disease
Control	367	4 3	7.4	1,670
Antitoxin	317	3 8	6.2	631
	Uncomplicated	One complic.		Multiple complic.
Control	161 44%	115 31%	91 25%	
Antitoxin	210 66%	85 26%	25 8%	

AVERAGE DURATION IN DAYS OF COMPLICATIONS

TYPE OF CASE	Cervical Adenitis		Suppurative Otitis Media		Catarrhal Otitis Media		Mastoiditis		Primary Rhinitis and Sinusitis		Secondary Rhinitis and Sinusitis		Albuminuria		Nephritis		Arthritis	
	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver. Days	Num- ber	Aver- Days
MODERATE																		
Control	46	10.9	17	26.8	24	5.9	3	6.7	9	8.6	13	14.8	3	5.3	2	12	11	9.2
Serum treated--	4	6.0	2	18.5	3	3.7	0	---	1	28.0	1	25	3	10.0	0	--	1	5.0
MODERATELY SEVERE																		
Control	45	16.4	16	41.4	20	7.5	2	14.5	16	13.6	20	17.9	6	13.3	6	25.2	12	6.6
Serum treated--	16	9.0	10	21.5	13	6.2	1	5	18	10.8	3	30.7	6	11.3	5	11.6	7	10.1
SEVERE																		
Control	11	16.5	7	49.6	2	8.5	4	17.8	6	19.7	2	17.5	0	0	3	18	8	7.3
Serum treated--	16	9.3	8	14.5	9	6.6	2	5	21	11.4	3	9.3	2	20.5	1	22	3	3.7
TOTAL																		
Control	102	13.9	40	36.6	46	6.7	9	13.3	31	13.3	35	16.7	9	10.7	11	20.8	31	7.7
Serum treated--	36	8.8	20	18.4	25	6.0	3	5	40	11.5	7	20.5	11	12.6	6	13.3	11	7.9

PROPHYLACTIC USE OF ANTITOXIN

Scarlet fever antitoxin may be employed in the prophylactic dosage of 100,000 to 150,000 units to confer a rapid, passive immunity on susceptible persons who have been exposed to the disease. Since the immunity thus produced usually does not last more than ten days to two weeks, active immunization with the toxin should be

started one week after the prophylactic dose is administered.

When possible, it is always advisable to do throat and nose cultures on blood agar plates at the time the Dick test is performed on persons exposed to the disease. Even though the individual in question may be susceptible, if his cultures contain no hemolytic streptococci the pro-

phylactic antitoxin may be withheld, providing further contact with the scarlet fever patient can be avoided. However, when the "contact" is found to be both susceptible and to be harboring hemolytic streptococci in his nose or throat, it is safer to give the prophylactic antitoxin unless the person can be under strict daily observation. If he can be observed constantly the serum may be withheld until a slight rise in temperature, onset of sore throat or other symptoms of scarlet fever makes its immediate use imperative.

BLANCHING TEST

Scarlet fever antitoxin is also employed in the diagnosis of doubtful rashes. Two-tenths c.c. of scarlet fever antitoxin is injected intradermally in the center of a large area of the doubtful rash, preferably on the abdomen or chest.

The test is observed eighteen to twenty-four hours later although it may become positive earlier. A positive reaction consists of a blanching of the rash in a circular zone surrounding the central red spot where the injection was made. The reading should be made in a bright light and is best done by standing at a distance of several feet from the patient. The rash of German measles and other non-scarlatinal rashes are not affected by the scarlet fever antitoxin.

CULTURES IN CONTROLLING SCARLET FEVER

The use of blood agar plate cultures is as necessary for the quick control of a scarlet fever epidemic as is the use of Loeffler's medium cultures in diphtheria. With a glass marking pencil the plate should be marked through the diameter and one side marked for throat, the other for nose. The material obtained by rubbing the tonsils and pharynx of the person to be tested with a cotton swab is gently spread over the surface of the "throat" side of the medium, while that obtained by deep insertion of the cotton swab into both nares is used to inoculate the "nose" side. The plates are read after twenty-four hours incubation. With a little experience the observer is able to accurately identify hemolytic streptococcus colonies by merely looking at the plate, without the aid of stained preparations. This makes the method rapid and easy. During a scarlet fever epidemic it is best to regard all hemolytic streptococci as scarlatinal streptococci, just as one regards all bacilli with the morphology of Klebs-Loeffler bacilli as diphtheria bacilli in the presence of a diphtheria epidemic.

In the case of persons harboring these hemolytic streptococci over long periods it may become necessary to do tests to determine whether these organisms are specific for scarlet fever.

TESTS FOR SPECIFICITY

The differentiation of scarlet fever streptococci is accomplished by testing the organisms in question for specific toxin production. This is done by growing the organism in plain broth to which a small amount of sterile human blood has been added. The broth culture is incubated from two to four days; filtered through a Berkefeld "W" filter to remove the bacteria and the sterile filtrate is tested for the presence of scarlet fever toxin. This procedure requires about the same time and facilities as are needed for testing diphtheria cultures for virulence. It is, therefore, impractical for those who do not have rather extensive laboratory facilities, and it may be left to the health department laboratories.

Fortunately, this test for specificity is not necessary in the majority of instances. It is required only in cases of persistent carriers and under conditions similar to those that necessitate tests for virulence of diphtheria bacilli.

PREVENTION OF SCARLET FEVER

Having available all of the means just outlined for combating scarlet fever, namely, the skin test for susceptibility, toxin for active immunization, antitoxin, and blood agar plate cultures, practically all outbreaks of scarlet fever can be suppressed rapidly and effectively. The particular methods to be employed in homes, schools, camps, institutions, etc., will depend upon the particular conditions confronting each group.

When cases of scarlet fever are not occurring in an institution or a community all that is necessary is to make skin tests to determine the susceptible individuals, then actively immunize them by graduated doses of toxin.

When, however, cases of scarlet fever have occurred in the group in question the problem becomes more complicated. On the first day Dick tests for susceptibility are performed on every individual of the group concerned, and at the same time cultures from the throat and nose are made on blood agar plates. It is extremely important that everyone be thus tested. For instance; in a school, the faculty members, janitor, office help, scrub women, etc., must all have throat and nose cultures. Otherwise one carrier of hemolytic streptococci may be missed and the whole effect of the quarantine nullified. If some of the older individuals refuse the skin test that is their own responsibility, but for the welfare of the whole group it is essential that they have cultures. Next day the skin tests are read and the blood agar plates observed. Thus at the end of twenty-four hours it is possible to know for

each individual concerned, first, whether or not he is susceptible to scarlet fever, second, whether or not he harbors the hemolytic streptococci in his nose or throat. What is done with each person depends upon these findings.

The school or institution is next divided into two groups depending on the results of the cultures. All those with positive cultures go in one group, all those with negative cultures in another. They must not under any circumstances be allowed to mingle.

Having made the division into infected and non-infected groups attention is first turned to those with positive skin tests, indicating susceptibility, in the infected group. The temperatures of these persons should be taken, their throats examined, and skin of the chest observed for the appearance of a rash. The finding of a rise in temperature, a suspicious flush on the skin, an inflamed throat or any other symptom which arouses suspicion on the part of the examiner should prompt the immediate use of a prophylactic dose of antitoxin. The individual is then put to bed. Daily inspections of this type are continued, and prophylactic antitoxin given when indicated. One week after the quarantine is imposed these susceptible individuals with positive cultures who have not received prophylactic antitoxin should be started on active immunization with scarlet fever toxin. But the daily inspection should continue, because the active immunization cannot be expected to afford protection until at least three or four doses have been given. Even though one or two doses of toxin have been given, on the appearance of symptoms indicating the onset of scarlet fever these persons should receive antitoxin. The persons to whom it has been found necessary to give antitoxin should be started on active immunization with toxin one week after their prophylactic injection. Otherwise they may continue to be carriers or become re-infected and will come down with scarlet fever two or three weeks later when the passive temporary immunity conferred on them has disappeared. The infected individuals who are not susceptible (as indicated by negative skin tests) require no further attention except the throat cultures necessary to release them from quarantine. Under no circumstances should they be permitted to mingle with the "clean" group until their cultures have become negative.

In the non-infected or "clean" group the individuals showing negative skin tests may be neglected except to keep them from contact with the infected group so that they will not themselves become carriers. However, those with positive

skin tests are started at once on their active immunization with scarlet fever toxin.

The quarantine is maintained until the members of the non-infected, susceptible group have received all five of their doses of toxin at five or seven day intervals. Experience has demonstrated the necessity of maintaining the quarantine this long. In most of the institutions where we have worked there have been individuals who have refused active immunization or have quit after receiving two or three doses. It is a common experience for one or more of such individuals to contract scarlet fever after the quarantine is lifted.

When it is impossible to make cultures on blood agar plates the situation cannot be controlled so quickly. In that case skin tests should be made at once and the individuals concerned should be divided into two groups depending upon whether they are susceptible or insusceptible. Those with negative skin tests may be disregarded. The group with positive skin tests should be started on active immunization at once, but during this process should be examined daily as outlined before. Therapeutic doses of antitoxin should be given if signs of beginning illness appear. It should always be followed in one week by active immunization.

An example of such a situation, in which culturing was not possible, occurred at Fulton, Illinois, a town of about 1,000 inhabitants. Forty-six cases had occurred within three months prior to the time the scarlet fever committee took charge. All the school children for whom consents could be obtained were tested for susceptibility and those found Dick positive were immediately started on their toxin injections. In the meantime two school nurses made daily careful inspections of all children in the susceptible group. All children with findings which aroused the suspicion of the nurses were sent home and the children were reported to the local health officer. He examined the child and gave antitoxin when it was indicated. Two or three cases of scarlet fever developed in the small minority of children whose parents had refused to allow them to be immunized, but by the time the group of susceptibles had completed their immunization the epidemic was effectually stopped.

When scarlet fever occurs in a home the same principles of active and preventive treatment apply. The patient receives one or more therapeutic doses of antitoxin. Susceptible "contacts" are started in on their active immunization provided further contact with the scarlet fever patient can be avoided, and frequent observation

by the attending physician can be had. On the development of fever or other signs of early scarlet fever before immunization is complete, antitoxin must be administered. If the mother or some other member of the family who is to act as nurse to the scarlet fever patient is found susceptible she should receive prophylactic antitoxin and then be started on her active immunization one week later, for obviously further contact cannot be avoided. The "contacts" who are not susceptible need no treatment but should be regarded as potential scarlet fever carriers unless blood agar plate cultures are available to establish the fact that they are not.

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Discussion

Dr. Herbert R. Sugg, Clinton—It is always a pleasure to have a man in whom you believe do well, and I was certain this organization would hear a good talk by Dr. Rhoads, who is always both instructive and interesting. There is one question I wish to ask: Given an individual with scarlet fever and who is treated with scarlet fever antitoxin, does he become immune as the result of having had the disease or is it necessary to follow up his case by the administration of scarlet fever toxin in order to effect permanent immunity? Having had experience in the use of scarlet fever antitoxin in many cases I am free to say that nothing is more brilliant in the practice of medicine than the rapid subsidence of toxic symptoms following the administration of a therapeutic dose of scarlet fever antitoxin. Dr. Rhoads has touched on many phases of the subject and I presume has brought out the points I wish to emphasize. To discuss them further may help to fix them in our minds. I wish to preface my remarks by suggesting that, if there are any anti-vaccinationists present, they report what I say and not what they think I should have said; for I would not knowingly say anything which might increase prejudice against vaccines and serums. I can remember when we gave a patient with diphtheria a curative dose of antitoxin, gave the contacts immunizing doses of antitoxin with assurance that they were all made safe. Of course the case needed the antitoxin, but in administering antitoxin to immunize temporarily the contacts we unnecessarily sensitized a lot of people to horse serum. Later as a result of the contact developing either diphtheria or scarlet fever necessitating the administration of a therapeutic dose of antitoxin we are confronted with the inconvenience of administering horse serum to a sensitized individual. The point I wish to make is, that we should refrain as much as possible from sensitizing people with horse serum by temporarily immunizing them with antitoxin. Leaving the diphtheria contacts out of the discussion and confining ourselves entirely to scarlet fever contacts we have to bear in mind, first, that the contact may be immune to the disease, and, second, if the contact is

not immune to the disease we must remember that all susceptible contacts do not develop the disease. Therefore if we separate our scarlet fever cases and our scarlet fever contacts at the earliest possible moment relatively few of the susceptible contacts will become cases. It is therefore better to begin the permanent immunization of the contacts by the administration of scarlet fever toxin, always being ready to give scarlet fever antitoxin in the event the contact becomes a case. I think it is very important that we should adhere to this practice whenever possible because of the multitude of people who have already unnecessarily been sensitized to horse serum. Fortunately I have never had a real serious reaction following the administration of horse serum, but I have had reactions serious enough to visualize the serious cases that I have heard about. Probably the cases which are in greatest danger are those who have never received horse serum but who have an idiosyncrasy to it. These cases are just as apt to get a bad reaction from the first administration as they are from subsequent doses. It is advisable therefore in all cases known to be sensitive to horse serum to use when possible serums made from sheep's blood. I hope the day is not far distant when we will have freer access to serums of this nature. I was glad to hear Dr. Rhoads say that the reactions which we are getting from scarlet fever serums today are milder than we formerly obtained. I think this is true, due to the fact that the serums are both better aged and more refined. In the event that we are obliged to use scarlet fever antitoxin, made from horse serum, in a case which has previously had horse serum we should at least approach the case carefully. We sometimes see these children desperately sick with scarlet fever who have previously had horse serum and to whom it is necessary to administer scarlet fever antitoxin without the opportunity to desensitize. In such cases we have to choose between the lesser of the two evils. But if possible we should try first to desensitize the patient after the method that Dr. Rhoads and his collaborators use; that is, dilute the antitoxin one-half with sterile normal salt solution. Give the case two-tenths of one c.c.; in one-half hour give four-tenths of one c.c., in a half hour give eight-tenths of one c.c., in a half hour give one c.c., in a half hour give one c.c. of full strength antitoxin, in one-half hour give the therapeutic dose of antitoxin. In carrying out this desensitizing treatment there are disadvantages. Even in town it necessitates remaining in the house during the desensitizing period and in the country practice it becomes almost impracticable. It works fine in institutional practice. I emphasize again the desirability of not unnecessarily sensitizing people to horse serum. One point with reference to the Schultz-Carlton test: When the test first came out we were advised to read the reaction at the end of six or eight hours; the later instructions are to observe the reaction at the end of twenty-four hours. Some months ago I narrowly escaped a disaster by attempting to read the reaction too early. At the end

of twenty-four hours the reaction was beautiful. One of the troubles with the blanching test is that it works fine in those cases in which there is no question about the diagnosis, but when you have cases with very little rash either because you have seen the case late or because there never was much rash, then it is not so valuable. In these cases it behooves us to look the patient over well in order to select a spot where the rash is most prominent; frequently this place is found in the groin. In spite of the difficulties we may have in the use of this differential test I think we should keep it in mind because frequently it is of invaluable service. I have heard doctors intimate that there should be little difficulty in differentiating between scarlet fever and German measles. I do not agree with them, but I do maintain that sometimes it is very difficult to determine whether you are dealing with scarlet fever or German measles, and in such cases the Schultz-Carlton test is frequently of great service. Yesterday Dr. Rhoads inaugurated here, in Cedar Rapids, a campaign of immunization against scarlet fever. He is a benefactor to this community and what he has started is going to save the lives of many children to say nothing of the thousands of dollars it is going to save the people of this city.

Dr. Henry Albert, Commissioner, State Department of Health, Des Moines—In view of the favorable results that have been obtained in the treatment of scarlet fever by the use of the antitoxin and the consequent lessening of the duration of the period of illness, we have been asked several times during the past year whether or not the State Board of Health has reduced the period of quarantine, which in uncomplicated cases is, as you know twenty-eight days. There seems no doubt but that patients who receive antitoxin will recover from scarlet fever in less time, and will as a rule show a more rapid disappearance of the hemolytic streptococci from the nose and throat than will those who have not received antitoxin. It has been shown however that even with the use of antitoxin there is a sufficient number of cases that show the presence of streptococci at the end of twenty-eight days, that it is not advisable to reduce the period of quarantine, if such is left on a time basis and is not dependent on bacteriological examination. Of course there is a difference between the two types of cases, and the period of quarantine for those who have not received antitoxin should really be somewhat longer. In some places the period of quarantine is thirty-five days, but we still maintain the twenty-eight day quarantine. The State Board of Health has urged and recommended the use of active immunization with the scarlet fever streptococcus toxin, using it only in those cases where scarlet fever is prevalent. At a meeting this morning the State Board of Health took action towards recommending its more general use. I would like to emphasize that the service being given by the Scarlet Fever Committee is very unselfish. The receipts from royalties obtained from the sale of biologics are used to support the work of

the committee. Dr. Rhoads comes to us without any expense to the Society.

Dr. Fred Moore, Des Moines—In regard to variation in the cultures, I would like to ask Dr. Rhoads the relative frequency of each. I would appreciate also if he would state again the treatment of that group having positive cultures and a negative Dick test. In reference to the quarantine, should it not be determined by culture rather than related to the previous use of antitoxin? We have given approximately 200 contacts recinoleated antigen without any ill effect. In one instance it was followed by a mild case of scarlet fever two weeks later.

Dr. C. Erichsen-Hill, Council Bluffs—I would like to ask Dr. Rhoads about the use of antitoxin in those cases of scarlet fever that are extremely mild, simple scarlatinal cases; what should be our practice in these cases as a rule?

Dr. C. E. Ruth, Des Moines—How late in the history of scarlet fever do you think it wise to use antitoxin?

Dr. Frederick W. Mulsow, Cedar Rapids—I believe the essayist did not say anything about pseudo-reactions. In determining the susceptibility to diphtheria by the Schick test it has been found that a pseudo-reaction may occur in 10 to 25 per cent of the cases. In scarlet fever how are we going to recognize pseudo-reactions when only the one injection of toxin is made?

Dr. Rhoads (closing)—Answering Dr. Sugg's question as to whether the person receiving antitoxin develops immunity to scarlet fever, in the majority of cases he does. The incidence of positive Dick tests in persons having had scarlet fever may be slightly higher in the group having antitoxin. However, that is not a contraindication to the use of antitoxin. I am glad Dr. Sugg emphasized the necessity of looking out for serum reactions. We have never had any patients develop anaphylactic shock or the Arthus reaction but we always take what precautions we can against them. We invariably take the history of previous injections of horse serum and inquire about previous attacks of hay fever, asthma, hives, etc., everything which we think may indicate a hypersensitiveness to foreign protein. Whenever the history is positive in any of these respects we desensitize the patient. Also as Dr. Sugg states we do not give antitoxin promiscuously. It is given only to those persons having the disease or in need of immediate protection as demonstrated by the Dick test and cultures. Dr. Sugg and also Dr. Hill brought up the question as to whether antitoxin should be given in the milder cases of scarlet fever. We advise its use in all cases of scarlet fever even of the mild type as soon as the diagnosis is established. We all know that one of the characteristics of scarlet fever is that complications are as apt to occur in mild cases as in severe ones, and we know that antitoxin cuts down complications materially. Therefore we advise its use. Replying to Dr. Moore's question in regard to the treatment of the

group with positive cultures and negative Dick tests, when we quarantine an institution we simply keep that group isolated until they get rid of the hemolytic streptococci. Dr. Albert brought up the question of shortening the quarantine period in scarlet fever. That is a good point, because it seems to be the more intelligent way of terminating the quarantine. In the state of Illinois, at the last meeting of the committee that controls the quarantine, it was decided that, in those patients who received antitoxin, if there were negative cultures for hemolytic streptococci at the end of three weeks they would terminate the quarantine. This is the only change in the direction of shortening the quarantine period that I know of. It certainly seems an intelligent thing to do. Answering Dr. Ruth's question as to how late in the course of scarlet fever it is wise to use antitoxin—at any time during which the patient has a rash it is certainly indicated, and the sooner it is given the better. It is seldom given past the fifth or sixth day of the attack. Dr. Mulsow asks about pseudo-reactions in skin tests for susceptibility to scarlet fever. In our work so few reactions were obtained with either heated toxin or medium control that we discarded that kind of a control test as an unnecessary complication.

INCIDENCE AND TREATMENT OF PERSISTENT OCCIPITO POSTERIOR POSITIONS*

HARRY W. VINSON, M.D., F.A.C.S., Ottumwa

The title of this paper might sound somewhat ambiguous, as only a certain per cent of occipito posterior cases become actually persistent and remain so. But, for the purpose of discussion, we will let the title stand as it is written.

Occipito posterior positions occur as the most common complication to labor, as we now see it. They are so common that they compose the largest per cent of reasons for interference, and which often go unrecognized, until the period for timely interference has passed.

Various authors give different estimates, as to the frequency of occurrence. Edgar gives 4.04 per cent to 6 per cent; Teacher, 4 to 6 per cent. Other English authors, from 2 to 7 per cent. Dr. DeLee says it happens too often, and is probably the most common cause for interference. Irving Potter says that left occipito posterior position is very common, but rotates more often than we know about. As he does version so frequently, and introduces his hand into the uterus, he claims to be able to thus diagnose the condition more often than would otherwise be diagnosed, by the

usual methods of examination. Douglas Miller, of the Edinburgh Royal Maternity Hospital, says that of 750 cases, the incidence was 18 per cent. All authors agree that it is the most common complication of labor, that the patience, judgment and skill of the obstetrician is taxed to the utmost, and that often bad consequence follow to both mother and child.

Etiology—This is somewhat speculative. Certain malformations may be the cause, such as justo minor, or flat pelvis, or such conditions, as placenta previa, and tumors are cited. Small parts ahead, which do not allow proper descent of the passenger, is given as a cause. Gibson, of Australia, says that the fetus develops in that position and that a fertilized ovum becomes implanted in a retroverted position. Teacher says that patients with retroversion early in pregnancy, often have occipito posterior positions.

Gibbons Fitz Gibbons gives the following causes of persistent occipito posterior cases:

1. Imperfect flexion.
2. Fetus lies with back to mother and its natural convexity is undone and replaced by a straightened spine with extension of head.
3. Obliquity of uterus to right.
4. Pendulous abdomen.

In my own cases, I have found them, more often, in the short thick patient, with a funnel-shaped type of pelvis, and with a large promontory of the sacrum, which was cone-shaped, in several instances, and which produced an obstruction to the engagement of the head.

Symptoms and Diagnosis—Most occipito posterior cases are long drawn out affairs, if left to themselves. We may begin to suspect this condition if the pains are slow and insufficient. One should not approach his case without first having made a thorough examination, with all the pelvic measurements that can be made. It is possible to diagnose most of these in advance. Even in these days, when everything is moving at such a rapid gait, there is no discount on the knowledge which palpation, auscultation, and mensuration can give. I am speaking now to the general practitioner, and upon him would I urge the perfection of the simple means of obtaining data in obstetric cases. It is not hard to measure a pelvis, and by doing it time and time again, to acquire certain judgment that will serve you well, when needed. The fetal heart can usually be discovered in a majority of cases, and palpation, to tell where the back and small parts are, along with certain facts as to the position of the head, is just as easy to learn as an internal examination, and sometimes more valuable. Women appreciate

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this pre-puerperal attention and will come willingly to your office, for examination, if they are told the importance of it. When we lift the art of obstetrics out of the midwife class, and put it where it belongs, and really believe in its importance ourselves, then we will have fewer mutilated babies and women to answer for.

Several facts stand out prominently to help us with a diagnosis. The shape of the abdominal wall is changed, and there is a gradual slope of the abdomen, extending from pubis to ensiform cartilage, instead of the rather abrupt enlargement above pubis, due to the shoulders and their anterior position. The fetal movements may be observed all over the abdomen. The head may, or may not, be engaged but the occiput and sinciput will be equally prominent. Late engagement at the superior strait is very frequent. The fetal heart is usually heard well around in the flank, but may be heard anterior, and either in the center of the abdomen, or slightly to the left, in right sided cases, and in which location it may cause confusion in diagnosis.

When we examine per vagina we often find poor dilatation, especially if the bag of waters has ruptured, as is often the case. In right-sided cases, we find the anterior fontanelle, anterior and to the left. The posterior will be near the right sacro iliac synchondrosis. Poor flexion is the rule. The caput may be large and obscures the normal cephalic landmarks, by being over the vertex, and we have to resort to further and more complete examinations, such as introducing the hand and grasping an ear so as to be sure of our position. This is the sure way of establishing, or at least corroborating, our diagnosis.

What are the ways in which the occipito posterior case may terminate?

1. Quite a large per cent will rotate themselves after a longer or shorter period of time. In fact, the most of them will do this. Douglas Miller, in citing 750 cases at the Edinburgh Royal Maternity Hospital, says that it occurs in 60 per cent of all cases, if left alone.

2. We may have a lack of engagement at the pelvic brim. Here pelvic deformity may help increase the incidence of this peculiarity.

3. The occiput may rotate into hollow of sacrum, and we have face to pubis case. If the head is small enough, our delivery may be spontaneous with the added danger of perineal laceration due to the occiput of the poorly flexed head.

4. Arrest of the head in the transverse diameter of the pelvis, due usually to poor flexion.

Prophylactic Treatment—We should try and convert some of these cases to anterior positions, by posture. Kneeling on the opposite knee, from the position determined, bringing the knee of the same side sharply flexed, up to the abdominal wall, for a certain period, several times daily, has been advised.

Letting the patient lie on the side, to which the occiput is pointing, will sometimes help to cause favorable rotation.

External manipulation may be tried by placing the left hand down in the patient's flank, behind the back, and endeavoring to rotate the back to the front, the patient being in a modified Trendelenburg position.

Prognosis—The danger to the mother is infection, which may follow exhaustion from a long drawn out labor, and the manipulation necessary, to the termination of the same. Extensive laceration may follow with its danger of infection. Then, the danger to the infant, which any manipulation may bring by pressure on head or cord, or prolapse of cord.

The treatment is varied. A skillful diagnosis is the first requisite, and this is capable of being done by anyone who will take the time to give his patient routine examination, and keep in mind certain salient points in making them.

Pelvimetry is easy to learn, and the facts obtained should be correlated with the accurate study of the position, determined by external examination, largely, and supplemented by careful vaginal examination.

Meddlesome midwifery, a term used long ago, still is a menace, but skillful midwifery knows when, and how, to interfere, without throwing away the chance for recovery of both mother and babe. Remember, that skill, and not strength, should be our watchword. (DeLee.)

We should first carry our case along without interference, until the cervix is dilated or dilatable. This occurs very slowly, as the waters often break early, poor flexion occurs, and with the sinciput pressing down to a slight degree, only on the lower uterine segment, dilation is very slow, as a rule.

A high arrest of the head above the brim should call for version, in the classical case. This should be preceded by a thorough ironing out and dilating of the perineum, as advocated by Irving Potter, using first one finger, then two, three, four, and the whole hand, to be sure that stretching is adequate. The skill and technique he uses for this important maneuver can well be studied to our advantage. If the head has engaged, and manual rotation is the choice, I have found the

following technique to be useful. The patient is fully narcotized, ether or chloroform being the anesthetic of choice. The perineum being dilated, bowels and bladder empty, with the hips at the edge of the table, in a modified Trendelenburg position, the left hand is inserted with the palm upward, and the occiput is grasped so as to fit the palm of the hand. The bag of waters is ruptured, if not already. The head is rotated till the occiput is to the front, and the hand is slipped up to the anterior shoulder, by passing hand along back, and as shoulder and back are rotated anteriorly, the patient is turned on left side, and rotation usually is easy and complete. The patient is held in this position for two or three pains, when the lithotomy position is resumed, and the case left to its own completion. After waking up from the anesthetic, or as is usually the case, I put on forceps and deliver at once. This same technique has been carried out by the author for about sixty cases, and has never failed yet. The obstetrician, who has a large hand, may find difficulty in carrying this out, but the one who has a small hand will find it easy and satisfactory.

In some of these cases, an increase in the flexion of the head will help to cause more rapid rotation of the occiput to the front if dilation is not complete, and this maneuver may prevent interference later on. This is to be done, preferably, under an anesthetic, with two fingers pressed firmly against the sinciput, and held there during several pains. A gas oxygen anesthetic could be used here to a good advantage, as a very profound anesthesia would last too long, and inhibit pains, which may already be inefficient.

In cases of transverse arrest, I have had very little experience. It is my good fortune either to dodge this class of cases, or else I am unable to diagnose them. It is in these cases that fetal distress often occurs, due to pressure on the cranial bones. It is here where the Kielland forceps have probably been the most useful, as their absence of pelvic curve allows them to be used as a rotator without damage to the soft parts, as compared to the ordinary forceps with the pelvic curve, and whose rotating powers are almost nil. Putting the ordinary forceps in a reverse manner, and changing them as rotation to the front occurs, is one of the maneuvers long used.

If the occiput rotates into sacrum, poor flexion is often the rule, and forceps skillfully applied and used to maintain acute flexion will often prevent extensive lacerations. Here, a prophylactic episiotomy is useful. Finally, as a last resort, if our pelvis is too small, baby too large, if

care has been taken to prevent infection through vaginal examinations by making rectal ones, Caesarean section may be taken. It is a rather singular thing that our brethren of the English Isle, whose work I looked up very thoroughly before preparing this paper, think that obstetrics can still be a skillful art, and we find they do not resort to Caesarean section as often as we do in this country, and their rate of mortality and morbidity compares very favorably with ours.

So our conclusions on persistent occipito posterior cases would be as follows:

1. They occur from 4 to 6 per cent of all cases, and are the most common obstetrical complications.
2. They are readily recognized by careful external and internal examinations.
3. A certain number of cases can be corrected by posture and external manipulation before labor begins, and as a rule 60 per cent rotate themselves unaided.
4. Occipito posterior cases are long drawn out, exhausting to the mother, endangering her life, by infection through manipulation, and jeopardizing the life of the infant.
5. Watchful waiting, with timely interference, when needed, remembering that skill, not strength, is the watchword.
6. The type of interference depends on the type of arrest present, and the results depend on the individual skill of the obstetrician.

Discussion

Dr. Mary L. Tinley, Council Bluffs—The attitude of the obstetrician must ever be one of active, vigilant expectancy, anticipating danger to mother or child by early recognition of physical signs—thus averting complications and meeting them promptly and skillfully with a positive knowledge of the condition present. Careful study of the pregnant woman from conception to parturition; the parturient to the end of labor; the post-partum and child until the completion of involution and lactation is the trust given and accepted by any one who would practice obstetrics. As Dr. Vinson has presented his subject so fully, reviewing this potentially disastrous condition, its incidence and treatment along the lines familiar to us all, we recall many anxious hours spent in the care of primary occipito-posterior positions, refusing to engage or arresting in some part of the parturient canal. We have just heard of the frequency of this fetal attitude, position, and presentation. Possibly 30 per cent of all our cases are primary occipital posterior positions; of these 90 per cent engage positively posteriorly in deflexion, but flex and rotate anteriorly, labor progressing normally. The retarded painful dilatation is due to three factors: The broad dorsal curve of the fetus fitting into the posterior curve of the uterus; the inadaptat-

bility of the deflexed head to the lower uterine segment, and the consequent premature rupture of the amniotic sac. Having completed the dilatation and entered the superior strait by a mechanism favored by effective maternal muscular forces, a normal pelvis and possibly a favorable posture of the mother, plus a fortunate size and shape of the fetal head, resulting in flexion and rotation bringing the fetal cephalic levers in correct action to meet the pelvic planes. Thus the normal flexion, rotation, descent, extension and external restitution progresses. The remaining 10 per cent are less fortunate. It is for these the essayist urges the early diagnosis and individualizing every case entrusted to our care. Surprises are unpardonable. We should know the woman and fetus. A careful study of symptoms and signs will give us light. We must use our laboratory and x-ray. In the last two months of pregnancy familiarity with the attitude, position and presentation of the fetus, an estimate of its size and the type of head, the size and shape of the maternal pelvis by accurate measurements, her muscular structure, toxemia, endurance, the presence of tumors or any impediment to a normal progress of labor, the placental site and an estimate of the quantity of amniotic fluid—a knowledge of all these factors should be in our possession. The x-ray is an important help at this time. A roentgenogram one month before term will confirm our diagnosis of conditions within and allow corrective measures, early induction of labor if advisable and help our decision as to the ultimate intervention.

RELATIVE VALUES OF THE SHORT AND THE PROLONGED OCCLUSION IN VERTICAL PHORIAS*

E. M. TAYLOR, M.D., Dubuque

Since the introduction by Dr. Marlow of the "Prolonged occlusion test" and its adoption, in the past few years, by the medical profession at large, the discussion stirred up has been along two rather definite lines. First, as to the practical value of the test in our routine practice, and second, as to the length of time necessary for the occlusion to bring out reliable results.

It is not my purpose, at this time, to defend the occlusion test against its many critics. I feel that the results obtained by the prescription of prisms, based on this test, constitute the best defense this procedure can have. Rather I desire to discuss the method of carrying out the test, the length of time over which occlusion should be carried, tabulate the results found in my series of cases, and attempt to arrive at some conclusion concerning

the minimum time necessary for the satisfactory relief of symptoms.

OBJECT OF THE TEST

The object of the occlusion test, is of course, to allow each eye to seek its own anatomic position of rest, whether this is one of parallelism or not. Not having any drug at our disposal which will act on the extra ocular muscles, as a cycloplegic acts on the ciliary muscles, our next best procedure is to put the eyes at rest by removing the desire for binocular single vision. Thus any latent heterophoria becomes manifest, or if there is orthophoria this information is also valuable in determining our final prescription.

In this paper I am purposely omitting any mention of lateral imbalances, and will speak only of the vertical errors brought out by the test. I feel that small, latent, vertical errors make their appearance more quickly than lateral errors, and are much more prone to produce symptoms than the lateral heterophoria which is usually found. Of course a high exophoria, or a divergence excess, are different matters, and would require separate consideration.

Now as to the frequency with which we find symptom producing hyperphorias. Woodruff reports the number of vertically placed prisms prescribed by each of four leading St. Louis oculists in their last one thousand cases.

One reports 7; another 9; a third 24; and he himself prescribed 19. A total of 59 out of 4,000 cases, or about 1½ per cent.

I do not feel that these results give any true estimate of the real state of affairs. Marlow states that he always has at least one, and usually more occlusion cases under observation. Other men who use the test will say the same thing, I am sure. At any rate it is found often enough so that this procedure must be kept in mind at all times, not as a routine measure, but as an invaluable aid where indicated.

INDICATIONS

Placing them in approximate order according to their importance, occlusion is indicated in the following cases:

1. Those patients who are not relieved of their asthenopic symptoms after accurate or repeated refractions. (I have in mind one case who had nine pairs of glasses in two and one-half years. Relief followed a one and one-half degree prism B.D. over the right eye.)
2. Patients complaining of occipital headaches, and pains which run down the back of their necks and into their shoulders.

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3. Those people, often neurasthenics, who have marked symptoms, with little or no refractive error.

4. Patients in whom an aggravation of their symptoms, or photophobia, follows an accurate correction of their refractive error.

5. People who complain of headache, vertigo, etc., when riding on a train, or in a car, or after attending a motion picture show.

6. "Bargain counter headaches."

7. Operative cases, in whom we desire to bring out the full error before attempting any correction.

THE TECHNIQUE USED

My procedure in all these cases is along certain definite lines. At the first visit, providing the vision is fairly good, I take the muscle balance for both distance and near, using the Maddox rod cover test. (I usually repeat two or three times, so that the patient learns to cooperate rapidly, thus avoiding any undue hesitation in later tests, and the possibility of losing the effect of the occlusion by sluggish response.)

At the next visit, with the eyes under cycloplegic, and with the full correction in place and properly centered, I again check the muscles. I sometimes recheck at the post cycloplegic examination, with the distance correction in place, or, if I feel at the second examination that occlusion is indicated, I proceed with this, first explaining fully the object to the patient, and what he may expect if successful. I find it is a rare case indeed that will refuse to accept the test, provided it is explained properly, particularly when their symptoms are real and demanding relief.

I first use the short three hour occlusion, putting the gauze or black patch over the non-sighting eye. (This is determined by having the patient sight a distant light through a ring, or by pointing at a light with both eyes open.) I have always insisted on absolute monocular occlusion in preference to the frosted glass as used by Marlow, for I find I have trouble enough in keeping the patient from attempting to get binocular vision, without making it any easier for him. Of course the black patch, or the gauze patch, is far from perfect as regards the comfort of the patient, but until we find something better it will have to suffice.

At the end of the three hour period, I seat the patient in a darkened room, facing the muscle light at a distance of six meters. I now instruct him to close both eyes and to keep them closed until I tell him to open them. Then I remove the patch, place the trial frame containing his proper

correction in position, making sure of the centration of the lenses, and slip the Maddox rod over the better seeing eye, or from habit over the right eye, if they are approximately equal.

Since the patient knows what to expect when I allow him to see the line and the light, I can proceed very rapidly with the test, allowing him only a second or two, each time, to determine their relative positions, and having him keep the eyes closed while placing the correcting prisms in place. I habitually take the vertical balance first, for these small errors become latent again in a very short time.

After this test I replace the patch, fastening it in place with adhesive, and instruct the patient to return in twenty-four hours. Again I repeat the tests, record the results, and replace the patch for the long occlusion of seven days. I never allow the patient to change the patch himself, but instruct him to return to the office at any time it becomes uncomfortable and let me change it. Every precaution is taken to prevent even a few minutes of binocular vision, for the effect of the occlusion up to that time will surely be nullified.

Often with one eye covered a patient will notice a marked lessening of his asthenopic symptoms. This makes us feel that we are on the right track, but absence of relief does not necessarily mean that we are not going to accomplish our purpose by prescribing prisms. Occasionally we encounter a patient who does not tolerate the discomfort of the patch, and he may even complain of aggravated symptoms.

At the end of the seven day period I again repeat the muscle tests, observing the same precautions as before, and I now feel that I have an accurate idea of the true state of the muscle balance and can prescribe correcting prisms accordingly.

TREATMENT

There are no hard and fast rules by which can be determined the amount of prisms to be prescribed in a given case. Usually about two-thirds of the full error found, will procure the desired result, but at times it may be necessary to give full correction, or, in other cases, less than two-thirds. My practice has been to put the full correction, both prismatic and refractive, in a trial frame, and allow the patient to wear this around the office for a time. The strength of the prism may be varied until I find the one which gives the most comfort. Another good method is to fasten the prism you think best to the patient's own spectacles by means of small pieces of adhesive, and allow him to wear this for two or three days, changing the strength when necessary. Finally

the proper prism is ground into the patient's lenses, base up or down as indicated, over the deviating eye when at all possible. It is usually necessary to split a high degree prism between the two eyes, but I have seen patients who were comfortable only with the full correction over one eye, and they would not tolerate any change from this.

RESULTS

Seventy-six cases comprise the series here reported on which I have been able to try the three different occlusion periods. Of these seventy-six cases, fifty-seven or 75 per cent were given a vertical prism in the final prescription. The other nineteen were cases in which occlusion failed to bring out any latent vertical error, or the results obtained alternated back and forth between a small R.H. and a small L.H. until it was decided the muscles had no part in the patient's asthenopia.

Of course the ruling out of a muscle error has as much value to us, as the ruling out of the teeth or the tonsils in searching for a focus of infection. We are then more certain than ever that our final result will be satisfactory.

I will consider here only the other fifty-seven cases in which prisms were given. Practically all of these cases were either patients who had been refracted several times without relief, patients with a diagnosis of neurasthenia, or functional headaches, or those with such a small refractive error that it was not felt their symptoms could be accounted for on this basis. Nearly three-quarters of them were females and a large number were students.

At the first examination

- 9 or 16 per cent showed no manifest hyperphoria.
- 35 or 61 4 per cent showed one-half degree or less.
- 10 or 17.5 per cent showed three-fourths of one degree.
- 1 or 1.7 per cent showed one and one-half degrees.
- 1 or 1.7 per cent showed two and one-half degrees.
- 1 or 1.7 per cent showed four degrees.

I bring in these figures merely to show that the degree of hyperphoria found manifestly, has no relation to the amount which may be found after prolonged occlusion. I have in this series five cases which showed one-half degree or less of manifest hyperphoria and six degrees of hyperphoria after a seven day occlusion.

After occluding one eye for the short period of three hours, I found these results:

- 50 cases or 87.7 per cent showed an increase over the manifest findings.
- 5 cases or 8.8 percent showed no increase.
- 2 cases or 3.5 per cent had no 3 hour occlusion.

Of these fifty cases,

- 22 or 44 per cent increased less than one degree.
- 14 or 28 per cent increased one degree.
- 11 or 22 per cent increased more than one degree up to two degrees.
- 3 or 6 per cent increased over two degrees up to three degrees.

The results found after the twenty-four hour occlusion are as follows:

- 37 cases or 64.9 per cent showed an increased hyperphoria over the three hour findings.
- 11 cases or 19.3 per cent showed no change.
- 4 cases or 7 per cent decreased from one-half degree to one and one-half degree.
- 5 cases or 8 8 per cent had no 24 hour occlusion.

Of the thirty-seven cases which increased,

- 16 or 43 per cent increased less than one degree.
- 7 or 19 per cent increased one degree.
- 9 or 24.3 per cent increased more than one degree up to two degrees.
- 5 or 13.6 per cent increased more than two degrees up to three degrees.

The five cases which had no twenty-four hour occlusion, all showed a marked increase following the long occlusion, so it can be safely argued that most of them would have been included in the cases showing an increase over the three hour findings. This would bring the total up around 73 per cent.

Now after an unbroken period of seven days, I found the following results:

- 42 or 73.7 per cent showed an increased hyperphoria over the 24 hour findings.
- 7 or 12.3 per cent showed no increase.
- 2 or 3.5 per cent decreased one-half degree to one and one-half degree.
- 6 or 10.5 per cent had a shorter occlusion than 7 days.

Of the forty-two cases showing an increase,

- 19 or 45 2 per cent increased less than one degree.
- 7 or 16.6 per cent increased one degree.
- 9 or 21 4 per cent increased over one degree up to two degrees.
- 7 or 16.6 per cent increased over two degrees up to three and three-quarters degrees.

A few more facts brought out by the occlusion test are as follows:

- 70 per cent of the cases had a right hyperphoria as a final result.
- 30 per cent of the cases showed a left hyperphoria.
- 23 per cent of the cases changed from left hyperphoria to right hyperphoria.
- 3.6 per cent of the cases changed from right hyperphoria to left hyperphoria.

Just in passing I might say that I found an exophoria as a final result in 77.2 per cent of the cases, and an esophoria in only 15.8 per cent. Three and five-tenths per cent had no lateral imbalance and the same number were not recorded. Thirty-five per cent of the cases started with an esophoria (pseudo) and changed to an exophoria.

Now as to the final prescription given the patient for constant wear. Only 10 or 17.6 per cent were given a prism which could have been based on the three hour findings.

Nineteen or 33.3 per cent could have been based on the twenty-four hour results without the longer occlusion.

Twenty-eight or 49.1 per cent were based solely on the seven day occlusion, and could not have been arrived at without the prolonged period of time.

CONCLUSIONS

My work with the occlusion test makes me feel that it is invaluable in revealing a latent imbalance which might otherwise escape our notice. By means of it a large number of cases formerly diagnosed as neurasthenics, or "retinal asthenopias" are given the relief which repeated refraction has failed to give them.

From this series of cases it would seem that about 50 per cent of the cases might be given a prism after an occlusion period of twenty-four hours, with the feeling that we have approximately arrived at the true state of the muscle balance. Rarely would I feel justified in giving a prism after a three hour occlusion, and only then when the longer period of time was denied me. However it is impossible to tell just what a given case will do without using the longer occlusion. Therefore, recognizing the fact that one-half of these cases will show a decided increase in vertical error if subjected to a seven day test, I feel that we will procure a much higher percentage of success if we use the "prolonged occlusion" at the outset. I do not say that a prescription based on a short occlusion is doomed to failure, for I have seen too many cases in which marked relief was procured by such a prescription. I do think, though, that a good percentage of those cases will return after a time with a recurrence of their trouble, and further examination will reveal a substantial increase in hyperphoria which must be corrected before comfort is obtained. It is this type of case which gives rise to the statement that correcting a muscle error tends to increase the error. This is not the case any more than that the correction of a manifest hyperopia tends to increase the hyperopia.

Just as a cycloplegic brings out the latent hyperopia, so does the "prolonged occlusion test" bring out the full latent hyperphoria.

Just a word or two of warning before I close. This test is not for routine use in all cases showing a slight manifest vertical imbalance. W. H. Fink demonstrated in a large series of cases, that a latent imbalance could be uncovered in patients having no asthenopic symptoms. In the same way a great number of people carry a large refractive error without any discomfort. A hard working man in good health, who does but little close work, will easily tolerate a muscular error that would produce the most pronounced symptoms in a person of the opposite type. Also this man would probably not tolerate a prismatic correction of his muscle error. But let this man change to a sedentary life, with excessive use of his eyes, and very soon we would find him seeking relief from the nearest oculist.

Another point to remember is—do not disregard a small vertical error. A prismatic correction, even as small as one-half degree often means the difference between eye comfort and downright discomfort.

Finally let me say, this test cannot be condemned because of a few failures. The fault may very well lie with the operator, and repeated trials will undoubtedly end in eventual success in the handling of this most difficult problem.

Discussion

C. E. Chenoweth, M.D., Mason City—About two years ago while visiting Dr. O'Brien's clinic at Iowa City, I became interested in occlusion tests, and through hints from Drs. O'Brien and Taylor I began work. Since that time, I have occluded 225 cases. It is very interesting to me to note that two men, one in the extreme east and one in the extreme west, first brought this test to our attention. Marlow, who first published his work and has done a great deal to further it, first brought out this test, yet he tells us in his monograph that O'Connor of California, at the same time conceived and brought out independently of him the same test. Two minds, thinking along the same lines. At a later date O'Brien wrote an article which appeared in the American Medical Association Journal, and then we find another by Clarke of Indianapolis, and recently in a monograph on "Headache", by Green of St. Louis, he commended the idea and thought it should be used in certain cases. I feel sure we agree personally with Dr. Taylor that 1½ per cent of 4,000 cases is far too little to use prisms. Until I took up this work I never put on prisms, in fact, I used to ask what to do with patients, with little or no refractive error, and everyone would say to keep away from prisms, and I did keep away from them until recently. As to migraine, I do not know how many migraine cases are

going to be found who have faulty muscle balance. Every time I see a migraine case I occlude it, whether it seems indicated or not. I have one case of migraine which reported to me recently. It has been nine months since I put prisms on her and she has not had a headache since. Her neighbor came in, complaining of migraine, the history dating back to the second generation. I occluded her and put on prisms. I have had a nice letter from her since, telling me that she has only had three headaches since the occlusion, which has been a period of two or three months, and that they have been much less in severity, and she is well satisfied. In another instance, two men complained that corn plowing hurt their eyes. I put prisms on one man which gave him complete relief. The other man is still under observation, and I do not know whether he will be an occlusion case or not. My technique is practically the same as Dr. Taylor's. I might stress that quickness in giving these tests is very essential, and even a loss of two or three seconds will fail to give a definite picture, and the man who does not do it quickly will be disappointed. As to the time of occlusion, I have not been able to carry it out as Dr. Taylor. I put the patch on, and have the patient come back. The time I have occluded is as follows:

1 for 1½ hours	34 for 4 days
1 for 3 hours	1 for 4½ days
1 for 16 hours	3 for 5 days
1 for 1 day	1 for 6 days
1 for 1½ days	1 for 8 days
15 for 2 days	1 for 11 days
5 for 2½ days	1 for 15 days
123 for 3 days	1 for 47 days
9 for 3½ days	

The case taking forty-seven days was a little girl suffering from headaches for nine years. I first refracted her in the summer of 1920, and at that time she showed an esophoria of 5° and a right hyperphoria of 3°. Since this time I have refracted her on four different occasions with practically the same results. Last summer I occluded her and told her I would keep her occluded until she remained the same for three days. This we found required forty-seven days, and at that time she showed a left hyperphoria of 1½°. Giving her this correction, we found that she went through the last school year with the most comfort that she has had. There is no hard and fast line as to treatment. I correct all the hyperphoria if it does not go too high. You may be able to do this with one patient, and with another have to cut it down one-half or two-thirds. In putting on a partial correction they may wear them for a week or two and you may have to increase. In another case when the full correction is put on, you may find that you will have to decrease, in order to have your patient comfortable. One thing I have noticed with those I have corrected is that often I have to add more as time goes on, where I have not given the full correction. As to

the results, I have classified 200 cases which show as follows:

Before Occlusion			After Occlusion		
Negative	18 or 9	%	None		
Esophoria	88 or 44	%	43 or 21.5%		
Exophoria	82 or 41	%	144 or 72	%	
Rt. Hyperphoria	66 or 33	%	88 or 44	%	
L. Hyperphoria	35 or 17.5%		99 or 49.5%		
Esophoria plus					
Rt. Hyperphoria	23 or 11.5%		17 or 8.5%		
Esophoria plus					
L. Hyperphoria	15 or 7.5%		24 or 12	%	
Exophoria plus					
Rt. Hyperphoria	34 or 17	%	63 or 31.5%		
Exophoria plus					
L. Hyperphoria	17 or 8.5%		70 or 35	%	
Esophoria only	50 or 25	%	3 or 1.5%		
Esophoria only	31 or 15.5%		11 or 5.5%		
Rt. Hyperphoria only	9 or 4.5%		8 or 4	%	
L. Hyperphoria only	3 or 1.5%		5 or 2.5%		

I tried to make the classification somewhat the same as that of Dr. Taylor. Of 187 cases of hyperphoria

86 or 45.9 per cent showed no manifest hyperphoria
 63 or 33.6 per cent showed ½ degree or less
 19 or 10.1 per cent showed ¾ to one degree
 6 or 3.2 per cent showed 1½ degrees
 2 or 1.07 per cent showed 2 degrees
 2 or 1.07 per cent showed 2½ degrees
 4 or 2.13 per cent showed 3 degrees
 2 or 1.07 per cent showed 3½ degrees
 1 or .53 per cent showed 5½ degrees
 2 or 1.07 per cent showed 5½ degrees

Out of these 187 cases 130 or 69.5 per cent showed an increase over manifest findings. 19 or 10.1 per cent showed a decrease over manifest findings. 38 or 20.4 per cent changed from R.H. to L.H. or vice versa. Of the 130 cases showing increase

15 or 11.5% showed an increase of ½ degree
 25 or 19.2% showed an increase of 1 degree
 21 or 16.1% showed an increase of 1½ degree
 23 or 17.6% showed an increase of 2 degrees
 12 or 9.2% showed an increase of 2½ degrees
 9 or 6.9% showed an increase of 3 degrees
 11 or 8.4% showed an increase of 3½ degrees
 9 or 6.9% showed an increase of 4 degrees
 3 or 2.3% showed an increase of 4½ degrees
 2 or 1.5% showed an increase of 5 degrees

89 or 27.5% cases had a right hyperphoria as a final result

98 or 52.5% cases had a left hyperphoria as a final result

27 or 14.4% cases changed from R.H. to L.H.

11 or 5.8% cases changed from L.H. to R.H.

Dr. Taylor (closing)—I was glad that Dr. Chenoweth brought up the subject of migraine, although one of my most conspicuous failures was a migraine case. As to the length of occlusion in routine practice, it is impossible to carry this out in the definite

way you might wish, and I do not attempt it. Usually, in the office, I put the patch on the patient for two or three hours. If I find an increase, I replace the patch, send the patient home, and have him return after the most number of days I can get him to leave it on. Most patients will leave it on as long as I want them to do so.

FIBROIDS OF THE UTERUS*

GEORGE M. CRABB, M.D., Mason City

The most common tumor that we find in the body is the fibroid of the uterus. Because it is so common, it would appear that too little attention has been given to it. In a brief resume of the subject, I wish to show that its effects are serious; and that there follows in its pathway a high morbidity and indirectly a high fetal mortality and a relatively high maternal mortality. It is so common that one in five white women between the periods of puberty and the menopause have a fibroid uterus. In the black races the incidence is much higher.

Because the growth of these tumors is confined to the reproductive period of a woman's life, it is important that the general practitioner and the obstetrician be on the alert to know when he is dealing with a fibroid as a complication of pregnancy. Unless he be aware of the presence of uterine fibroids before delivery, he may encounter difficulties that will result seriously to the new born babe, or possibly to the mother herself. Besides causing difficulties in the pregnant woman, I would call your attention also to the anemias and organic heart diseases that follow as a direct result of a uterine fibroid, although the fibroid tumor itself is so small as to be of very little consequence.

Concerning the etiology of the uterine fibroid very little can be said. We know that it arises from pre-existing muscle cells. Most investigators agree that the fibroid or myoma arises in the involuntary muscle of the blood-vessel walls, and not from the non-striated muscle fibre of the uterus itself. It is Ewing's opinion, as stated in his book "Neoplastic Diseases", that "simple myoma uteri arise chiefly from a disturbance in the development of the tubes, uterus and vagina from Muller's ducts, which often leads at the same time to gross deformities and infantile characters in these organs". This opinion differs from the opinion of many other investigators, who hold that they arise from previously

existing muscle cells, either of the blood-vessel wall or from the non-striated muscle of the uterus itself, and that it is not a congenital developmental defect. This theory is supported because the tumors always occur and have their most rapid growth between the ages of puberty and the menopause. The exciting factor which actually determines the neoplastic growth that results in a fibroid is unknown.

Since a large proportion of fibroids occur in nullipara, it has been suggested that the tumor growth is but a manifestation of the otherwise latent developmental energy that has never been called into activity. This explanation is not sound, for in many instances the fibroid is the direct cause of the sterility, and not the result. If they occur in large numbers both in the nullipara and in those who have borne children we must conclude that uterine functions of menstruation or pregnancy have very little to do as exciting factors in the production of this neoplastic growth.

The fibroid tumor may occur in any portion of the uterus. By far the largest proportion occurring in the fundus, 6 to 8 per cent occurring in the cervix. Grossly they may be in the wall of the uterus, either single or multiple. The intramural fibroma may grow to great size and distort the uterine cavity, the fallopian tubes and the broad ligaments, so that normal relations no longer exist. They may grow toward the peritoneal covering of the uterus and thus become subserous or subperitoneal and pedunculated, or they may grow toward the uterine cavity and become submucous fibroids, or even be expelled free into the uterine cavity.

On cut sections most fibroids have an almost white glistening appearance, others are more red in color, due to a predominance of muscle cells and less fibrous tissue. The capsule has a rich blood supply, which accounts for their very rapid growth, in many instances.

Degenerative changes are particularly likely to occur in the very large fibroids. Atrophy may occur after the menopause, probably due to the withdrawal of the ovarian stimulus. This may be an explanation of the effect of radium on a fibroid, a fact that I will touch upon later. Hyaline degeneration occurs because of a decreasing blood supply. Following this we may have a cystic change. Fatty degeneration occurs about the time of the menopause. The tumor changes its appearance and becomes yellow in color and looks like fat tissue. The fat is finally broken up into glycerin and fatty acids; the fatty acids unite with the calcium in the blood to form an insoluble

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ble soap, which in turn is converted into calcium carbonate and calcium phosphate, a calcareous mass. In my series I have one such case, in which the calcareous fibroid, about the size of a baseball, was expelled free from all attachments, into the uterine cavity. This occurred in a single woman, age forty-two, who had an acute abdominal condition, which proved at operation to be a large ovarian cyst on a twisted pedicle. The cyst was removed, and because of the hard, fibroid-like uterus, a subtotal hysterectomy was done. On opening the uterus, the calcified fibroid mass was found free in its cavity.

Red degeneration occurs rarely, and I have one such case to report. This type of degeneration is usually associated with pregnancy, and the tumor has a mahogany brown or beefsteak color. The process is a rapid necrosis due to the action of auto-lytic ferments. A peculiar offensive fishy smell is given off, as a result of the decomposition that takes place. In my case the tumor was about the size of a term baby's head, and was located in the lower uterine segment. The pregnancy was at term, and a Caesarean section planned. After section and delivery, the red fibroid was enucleated from the lower uterine segment and the wall repaired. Four other good sized fibroids were also enucleated. After two and one-half years the patient was again pregnant, and delivered spontaneously.

Sarcomatous degeneration is always possible because these tumors are of mesoblastic origin, but I have not seen such a case.

The most common symptom associated with fibroid is menorrhagia. This complaint alone in any female patient deserves the closest attention from her physician. How many times I have had women come to me with the one symptom of bleeding, and they tell me that their family doctor has given ergot or a medicine to stop bleeding, and did not examine vaginally. Vaginal examination of the bleeding patient will usually reveal a fibroid in the younger woman, and may perhaps reveal a cancer of the cervix in the older woman. The bleeding associated with fibroids is usually related to the menstrual periods, with complete cessation between periods. Bleeding from a cancer of the cervix or fundus is usually more or less continuous.

Unless the fibroid is large enough to cause pressure symptoms, the patient may be unaware of the presence of any tumor growth, for by no means do all fibroids bleed or cause increased menstrual flow. Some of the largest fibroids that I have seen have been unassociated with any bleeding. The largest tumors by their size cause

pressure on the pelvic structures and in this way may cause very distressing symptoms.

Since fibroid tumors have their greatest growth during the reproductive period of a woman's life, it will be well for us to consider carefully the relation of the fibroid tumor to the pregnant uterus. Pierson, in a study of 30,836 pregnant women, found 250 cases of demonstrable fibroids; 59 of these cases had fibroids so small that he did not consider them to have any clinical significance. This left 191, or an incidence of .6 per cent, clinically important fibromyomata. Of the 250 cases observed, two aborted in the first three months. After the third month, twenty women aborted spontaneously, and nineteen fell into spontaneous premature labor. So as he points out, 24 per cent of those having clinically important fibromyomata had either spontaneous abortions or premature labor, and the fetal mortality in this group was 78 per cent. He states that the tradition that fibromyomata are relatively harmless is firmly established, and he wishes to correct the erroneous impression. It is true that relatively few fibroids cause obstruction to the presenting parts, but nevertheless the obstetric mortality is very high.

Pierson makes a comparison on the incidence of certain obstetric abnormalities in cases with fibromyomata, with 8,317 unselected consecutive cases:

Fibromyomata—Unselected Cases

Abortion Premature Labor	Dry Labor	Uterine Inertia	Prolonged Labor	Medium Forceps	High Forceps
24.1%	44.5%	34.6%	16.8%	16.8%	2.9%
39 of 191	45 of 101	35 of 101	17 of 101	17 of 101	3 of 101
14%	7.5%	1%	1%	7.5%	0.6%

Fibromyomata—Unselected Cases

Breech Delivery Mauriceau	Internal Podalic Version	Hemorrhage	Foetal Mortality After 3 mos.	Maternal Mortality
18.8%	8.9%	33.6%	32.1%	3.6%
19 of 101	9 of 101	58 of 191	62 of 193	7 of 191
6%	2%	4%	6.6%	0.9%

Major operative procedures or obstetric operations were necessary in 46.5 per cent of cases with fibroids, with a maternal mortality of 3.2 per cent and fetal mortality of 35.6 per cent.

Thus we see that fibroids related to pregnancy deserve the attention of the physician who handles maternity cases. The pregnant woman should have the benefit of a careful diagnosis before delivery, and special effort should be made to prevent abortion and premature labor.

The objective symptoms of bleeding and mechanical pressure are present in a large percent-

age of uterine fibroid cases. In addition to these symptoms, there are symptoms that are the result of secondary effects produced in organs that are remote from the pelvis. In a careful review of the records of our own cases, I was impressed with the fact that in 18 per cent there was definite evidence of organic or functional heart disease. This incidence is too high to be an accidental association of organic and functional heart disease and fibroid tumors of the uterus. Neither could I explain the associated heart disease as secondary to the severe anemias that are often present in the fibroids of long standing. Another good and sufficient reason for believing that these cases of associated heart disease are the direct results of the fibroids is that the heart symptoms have disappeared following the removal of the fibroids.

Thomas Wilson of Birmingham General Hospital in England, in some exhaustive papers, has clearly pointed out the direct relation between fibroids of the uterus and heart disease. It is his opinion that the subject has not received the attention its importance demands. He studied the subject both from the clinical and pathological side. There is abundance of material for the clinical study, but the evidence is not so conclusive. In those cases coming to autopsy there was definite evidence of brown induration and fatty degeneration, in others a decided fibrosis of the heart muscle was apparent. He concludes "these and many other pathological observations make it likely that fibroids give rise to cardiac degeneration, and that this degeneration takes the form usually of fatty and fibroid changes in the heart muscle."

As stated above the evidence on the clinical side is much more abundant, but not so conclusive. In our own cases symptoms of palpitation, dyspnea and other heart signs cleared up following the removal of the fibroids. Doran refers to several cases in which functional affections of the heart improved after hysterectomy. Chavaunaz cites a case in which an intermittent pulse disappeared completely following the removal of the fibroid. Many similar citations are in the literature.

Reports from the German clinics give 40 per cent as an average incidence of heart disease associated with fibroid tumors. From the observations of our own cases, and a partial review of the literature, it is obvious that heart disease and uterine fibroids are often associated. It is necessary therefore that every patient with a fibroid tumor should have a careful heart examination, and when heart disease is present, due considera-

tion should be given to that fact in the management of the case. If we believe that the heart disease is a result of the fibroid, radical removal of the tumor as soon as possible is necessary.

The presence of small fibroids without symptoms is hardly sufficient indication for radical treatment. For the treatment of these cases producing symptoms there are two methods of treatment—radiotherapy and surgery.

I would reserve radiotherapy only for those cases where surgery is strictly contra-indicated, because of a high grade anemia, a nephritis or a serious organic heart disease.

The same principles of pre-operative preparation should be carried out as for any major surgical procedure. Myomectomy for the small fibroids and subtotal hysterectomy for the large fibroids. The age of the patient should be carefully considered. If they are still in the reproductive period, myomectomy is of course the method of choice. If near the menopause or beyond, subtotal hysterectomy is the procedure to follow. The total hysterectomy operation is indicated only in those cases in which there is definite evidence of cervical cancer, or a chronically eroded cervix that looks suspicious. The incidence of cancer in the cervical stump is less than .3 per cent. The increased mortality and morbidity following the total hysterectomy would far exceed the .3 per cent and leaves little or no excuse for doing the more radical operation and leaving the pelvic floor without support. The coning out of the cervix from above or the use of the cautery below, preparatory to the subtotal operation, will eliminate nearly all of the cervical cancers that will follow the leaving of the cervical stump.

In my own group of cases, 10 per cent were treated by radiotherapy, using it only in those cases that were near or past the menopause, and in cases where surgery was contraindicated because of high grade anemia or other serious circulatory disturbance. Total hysterectomy was resorted to in 19 per cent of the cases, because the cervix did not look good. In 48 per cent, sub total operation was the operation of choice. So far as I have been able to follow the cases, none have developed a cervical cancer. Sixteen per cent were in the child bearing age, and myomectomies only were done. Several of these cases had subsequent pregnancies, and have had no recurrence of fibroids. Six per cent were not treated, because of my lack of persuasion to impress upon them the importance of their condition.

Of the post-operative complications, pulmonary embolism with infarction in one case was alarming, but recovery followed. In another case, a coronary thrombosis was responsible for a very serious situation, but recovery followed after many weeks. Thrombosis of the femoral veins was responsible for a prolonged convalescence in a few cases. There were no deaths.

Fibroids of the uterus should receive more attention from the general practitioner and the obstetrician. They should have more careful study by the surgeon and internist. Obscure heart lesions may be caused by fibroids. In my own case, heart lesions were present in 18 per cent of the cases before operation. While I have not made an accurate check-up of all cases, I know that the heart symptoms have disappeared. Although a fibroid is a benign tumor, it has serious possibilities, and the patient who has one deserves the most careful study and treatment.

Discussion

Dr. Donald Macrae, Jr., Council Bluffs—The point brought out and stressed in regard to myocardial changes taking place in cases of fibroid tumors of the uterus is one that will appeal to all of us when we consider the size of the vessels in these large tumors, and especially in cases of hemorrhage there is no doubt but that myocardial changes do take place. I have not observed this to any great extent in the cases we have had, and so I think that perhaps if we would pay more attention to this subject we would find it to be true. If it is true, it certainly would be another indication in favor of early radical procedure in the case of fibroid tumors of any size in order to obviate the danger of myocardial changes. It is better to have a scar on the belly than in the heart. I am absolutely opposed to and see no excuse for the extreme procedure of total hysterectomy in a case of fibroid. I think elimination of the mucosa by the method described by Dr. Crabb of boring down or doing the combined operation is very nice where there is an eroded cervix, thus saving all one can of a cervix that is not contaminated, then going above and working down. I have seen only one case of carcinoma in a cervix after supravaginal hysterectomy, but these women sometimes bleed or have discharges which they call leukorrhea; so while at it, with the patient under an anesthetic, we might as well destroy the mucous surface, but not the entire cervix, for two reasons: First, there is more risk, and, second, it deforms the vagina, and, especially in young women, this is objectionable. I despise myomectomy. Certainly of the two hysterectomy is the operation of choice except in young women who desire children. By this I mean that if we do myomectomies in young people we take chances. However, it is not that we like to do it, but we are forced to do it. My work is largely of the hysterectomy type. Even after myomectomy

has been done, we know that if the uterus is finally removed for fibroids and subjected to careful observation we will find many more small fibroids throughout its substance. So myomectomy usually means that hysterectomy will probably have to be done later. I have no use for radium in the treatment of fibroids. As you know, there are many contraindications to the use of radium in cases of fibroids. In the first place we should not use radium where there is infection; we should not use it if the tumor is larger than a three-months pregnancy; we should not use radium in a case of fibroids of the cervix. In fact, there are many contraindications to its use in these cases. Who is able to diagnose all contraindications? Those of you who have had experience know that frequently cases you have to operate on have been subjected to x-ray treatment. In young women, loss of uterine functions from the use of x-ray contraindicates its employment in these cases. No matter what the size of the uterus may be or how small, the ovaries should be retained. Therefore I agree with the author of the paper most thoroughly and congratulate him on his excellent presentation.

Dr. William Jepson, Sioux City—I quite agree with the essayist in his closing statement to the effect that fibroid tumors of the uterus are fraught with serious possibilities, and that such patients should elicit our careful consideration. It is my impression that uterine fibroids are on the increase, which I attempt to account for through the fact that a larger number of women are limiting their children to one or two, than some thirty or forty years ago, when no such limit was placed upon the family, for we know that a non-functioning uterus (i e., child bearing) predisposes it to the development of fibroid tumors. Concerning the matter of management, I can hardly assent to the principle that hysterectomy should have preference over myomectomy, on the grounds that she is left normal, a normalcy based on the fact that she is able to satisfy her husband. To her this does not constitute normalcy as far as she is concerned. As I view it, a woman is only normal when she can fulfill her place in the scheme of life, which all resolves about motherhood, and if a woman is robbed of this privilege through our operative procedures, we can hardly speak of her as normal, nor can she well thank us for this when it has been needless. Hence in my opinion myomectomy should be the operation of choice, unless the woman has passed the child bearing period, or there is reason to believe that the condition is one of malignancy. Following menopause, or when menstruation is continued beyond the child bearing period, the employment of radium will often be the procedure of choice unless the tumor is very large.

Dr. William A. Rohlf, Waverly—I believe that myomectomy, especially in young women, is the operation of choice. I can add to the testimony of Dr. Jepson and say that I have used radium in a number

(Continued on page 126)

STATE HEALTH COMMISSIONER'S PAGE

Henry Albert, M. D.

PREVALENCE OF COMMUNICABLE DISEASES

The communicable diseases most prevalent in Iowa during the past month were, influenza, pneumonia, scarlet fever, smallpox, chickenpox, mumps and cerebrospinal meningitis.

INFLUENZA

The "December (1928)—January (1929)" epidemic of this disease has of course subsided. A number of cases are still appearing. The surgeon-general of the U. S. Public Health Service is calling attention to the possibility of a secondary wave during the latter part of winter or early spring. This probability is based on the occurrence of such secondary waves in connection with previous epidemics.

MENINGITIS

As anticipated several months ago, there has been an increase in the number of cases of cerebrospinal meningitis during the past month. Sixteen cases were reported during this period. These were rather widely scattered. More than one case was reported from the following counties—Grundy, Blackhawk, Lynn, Webster and Cerro Gordo. The early use of antimeningococcic serum was no doubt largely responsible for the recovery of most of these cases.

MORTALITY FIGURES FOR 1928

The department has just completed its provisional mortality figures for 1928. These figures are subject to slight corrections. The final figures will not be out until about September.

Certain Important Causes of Death in Iowa, 1928 (Compared with 1927 and average for 5 year period)

A. Arranged alphabetically

	Number of Deaths 1928 (Provisional)	1927 (Final)	Average Annual 5 Year Period (1923-1927)
Total—all causes	25,517	24,532	24,619
Cancer (all forms)	2,752	2,689	2,408
Cerebral hemorrhage and softening	2,422	2,490	-----
Diphtheria	69	121	146
Heart Disease	5,221	4,036	3,299

	Number of Deaths 1928 (Provisional)	1927 (Final)	Average Annual 5 Year Period (1923-1927)
Influenza	1,359	648	790
Lethargic encephalitis	33	16	23
Measles	13	225	135
Meningococcus meningitis	23	21	13
Nephritis	1,287	1,690	-----
Pneumonia (all forms)	1,726	1,508	1,734
Scarlet Fever	42	41	74
Smallpox	4	2	13
Syphilis (a)	309	239	-----
Tuberculosis (all forms)	857	873	980
Typhoid and paratyphoid fever	57	54	65
Whooping Cough	82	105	135

B. Arranged according to number of deaths (1928)

Heart Disease	5,221	4,036	3,299
Cancer (all forms)	2,752	2,689	2,408
Cerebral hemorrhage and softening	2,422	2,490	-----
Pneumonia (all forms)	1,726	1,508	1,734
Influenza	1,359	648	790
Nephritis	1,287	1,690	-----
Tuberculosis (all forms)	857	873	980
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Typhoid and paratyphoid fever	57	54	65
Scarlet Fever	42	41	74
Lethargic encephalitis	33	16	23
Meningococcus meningitis	23	21	13
Measles	13	225	135
Smallpox	4	2	13

Comparing the deaths of 1928 with those of 1927, we find the following rather significant changes. There is a slight increase in the total number of deaths. In the order of number of deaths (highest given first), the diseases rank as follows: heart disease, cancer, cerebral hemorrhage, pneumonia, influenza, nephritis, tuberculosis and syphilis.

The 1928 figures show an increase in the number of deaths from: heart disease, cancer, pneumonia, influenza, lethargic encephalitis and syphilis and a decrease in the number of deaths from nephritis, tuberculosis, whooping cough, diphtheria and measles.

The increase of deaths from heart disease, cancer and cerebral hemorrhage follows the trend of the past twenty or more years. The same may be said of the decrease for tuberculosis.

(Continued on page 126)

CASE REPORT

DIAPHRAGMATIC HERNIA

A Case Report

F. W. FORDYCE, M.D. AND H. H. DILLEY, M.D.,
Des Moines

Mr. B., single, age thirty-four, machinist, had always enjoyed good health. On the night of January 7, 1925, he had the misfortune to be stabbed in the left chest with a large butcher knife. The knife entered the chest just lateral

and a little below the heart. After some delay he was rushed to the emergency hospital where the skin wound was closed by suture. He was seen the next day by one of us (F. W. F.) and found to be in profound shock. After a few days of supportive treatment he rallied and recovered rapidly save that he began vomiting after eating a moderate sized meal. He was fluoroscoped (by H. H. D.) and a left-sided diaphragmatic hernia was found. The stomach was shown to be well above above the dome of the diaphragm (Plate 1). Examination on the second day shows barium still retained in the stomach above the level of the diaphragm (Plate 2). The barium enema shows the colon protruding through the dome of the diaphragm (Plate 3).

The vomiting continued and he was removed to the Iowa Methodist Hospital where he was operated (by F. W. F.) February 2, 1925. The anesthetic was ethylene oxygen. A left rectus exploratory incision was made. Almost the entire stomach and the splenic flexure were found extending through the diaphragm, making it impossible to reduce the herniation from below the diaphragm. The left chest cavity was then opened, three ribs being resected. The stomach and bowel were found to be adherent to the posterior chest wall and the lung totally collapsed. The stomach and colon were stripped loose from the pleura and it was discovered that there were two openings in the diaphragm, the colon protruding through the lateral opening and the stomach protruding through the medial opening. The diaphragm was incised between the two openings and the herniation then easily reduced. The opening in the diaphragm was sutured with



PLATE 1



PLATE 2



PLATE 3

chronic gut. The abdomen was closed with drainage and the pleural cavity with closed drainage.

Five days after the operation he began to have abdominal cramps associated with vomiting. These recurred over a period of ten days at which time definite symptoms of intestinal obstruction appeared. The abdomen was opened and he was found to have an intestinal obstruction from adhesions involving the small bowel in the region of the drainage tube. The adhesions were removed and the abdomen closed. Following this he had no further gastrointestinal symptoms.

Four weeks after the operation definite signs of fluid in the left chest appeared (Plate 4). A small tube was inserted in the left chest and drainage continued over a period of about ten

weeks. On discharge from the hospital, April 12, 1925, he was re-fluoroscoped and skiagrams were taken of the stomach and colon. The stomach is in approximately normal position but apparently adherent to the diaphragmatic scar (Plate 5). The position of the colon was quite satisfactory (Plate 6).

Six months after his operation he returned to his work as a machinist and a recent letter from him states that he is in as good health as before his injury.

THE UNIVERSITY OF OMAHA OFFERS EDUCATIONAL TRIP TO EUROPE

School teachers and principals of schools have been advised, by the University of Omaha, of its offer to them and to the general public of a summer tour to Europe, between June 14 and July 27, 1929. The tourists will travel through England, Holland, Germany, Switzerland, and France.

The following are offered as special features:

1. Lectures on the tour by professors of the university, supplemented by special lecturers at different places.
2. The companionship of a group of people of similar tastes.
3. Extremely moderate price, as the tour is offered practically at cost. The price, \$575, includes ocean passage, both ways, all rail, auto, and boat transportation in Europe, hotels and meals, admissions, and care of all baggage.

A booklet, containing a detailed description of the itinerary, has been prepared by the university. This booklet may be obtained upon application to the office of this newspaper or by writing to the University of Omaha, 24th and Pratt streets, Omaha, Nebraska.



PLATE 4



PLATE 5



PLATE 6

DISCUSSION ON FIBROIDS OF THE UTERUS

(Continued from page 122)

of cases with the very best of results. However, as I understand, experience shows that children born after the use of radium are apt to be deficient. I haven't any personal authority for that statement because I have not had experience along that line, but this sentiment is gaining ground. If that be true, there is objection to the use of radium. One suggestion came to my mind, when certain women come to the surgeon with a history of hemorrhage, in an anemic condition, generally run down, and the diagnosis under which she has been treated up to the time she consults you has been "change of life"—we should not longer uphold this diagnosis with the prescribing of ergot, etc. It is in a sense a reflection upon the medical profession that the idea of "change of life" being responsible for these hemorrhages is still present in the minds of the laity. Many a woman comes to the surgeon with an inoperable carcinoma of the cervix or with a large fibroid that is responsible for the hemorrhage, when for months the case has been treated without a vaginal examination having been made for the purpose of determining the cause of hemorrhage. Therefore when such a patient comes to the family physician, thorough examination to find out whether she is suffering from carcinoma or fibroids should be made.

Dr. O. F. Parish, Grinnell—The subject of this discussion is uterine fibroids, and perhaps we have dipped into the discussion of fibroids as well. The subject of uterine fibrosis should perhaps always be considered in connection with fibroids, but there is a distinct entity of uterine fibrosis without fibroids. As I understand it, uterine fibroids produce a substance which seems to have a special affinity for the heart muscle, and, whether the condition is fibrosis or fibroids, it has been my experience that the blood count, especially as regards the number of the red cells and the hemoglobin, is quite deficient. In some cases the condition has been so bad that the count shows only one million red cells with a correspondingly low percentage of hemoglobin. These cases become operable and clear up nicely with one or two months pre-operative treatment; the heart muscle then standing the brunt of the operation very well. Uterine fibroids probably give us as much trouble as any other one uterine disorder we have to treat. To enucleate a large fibroid in a woman twenty-five or thirty years of age is good surgery, but very often I think it is our job to educate the people concerning the significance of fibroids and also we ought not to be radical in our ideas. It seems to me that conservatism is more compatible with the type of progress we would like to have rather than ultra-radicalism. It is, of course, a much easier job to go in and take out the entire uterus or do a subtotal hysterectomy than to enucleate the fibroid, especially if it is of the deep type, when it is not so easily done and especially if it is in the folds of the broad ligament.

This is sometimes quite difficult, but it may be done. I would like to hear a pathologist tell us something more about the differentiation between fibroids and fibrosis as regards their systemic effects, and the relationship of these two entities.

Dr. Davidson (closing the discussion for Dr. Crabb)—I do not care to make any statement bearing upon Dr. Crabb's paper, as he has written it, but in regard to hysterectomy in young women I would say that the literature is full of articles on the endocrine disturbances, and we know that hysterectomy in young women brings about a premature menopause and then, when the menopause should occur, they go through a very strenuous time. Dr. Rohlf brought up the point of the effect of radium upon the offspring. Probably the same thing is true there—the use of radium brings about changes in the ovary, thereby affecting the glands of internal secretion and particularly the thyroid, which is very closely associated with the reproductive organs.

HEALTH COMMISSIONER'S PAGE

(Continued from page 123)

The marked increase of deaths from influenza and pneumonia is attributable chiefly to the December (1928) epidemic of influenza.

The marked decrease from diphtheria is no doubt due chiefly to the campaign to eradicate diphtheria by immunizing all children with toxin-antitoxin.

The very marked reduction in the deaths from measles is due chiefly to the fact that 1927 was a "measles" year. We may expect a higher mortality from measles this year and a regular measles epidemic in 1930 or 1931.

PUBLIC HEALTH LEGISLATION

Two bills of public health significance have been introduced in the legislature. These are:

1. House File No. 185—a bill to create a division of inspection in the State Department of Health for the purpose of investigating violations of the practice acts.

2. House File No. 214—a bill authorizing counties to adopt and organize a County Board of Health and Welfare.

Both of these bills have the approval of the State Department of Health and the Iowa State Medical Society.

NO. OF IOWA PERMITS TO PRESCRIBE INTOXICATING LIQUOR

Word has been received from the U. S. Prohibition Service that 2400 or 70 per cent of the 3397 physicians of Iowa have permits to prescribe intoxicating liquor.

The Journal of the Iowa State Medical Society

ISSUED MONTHLY

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THE INJECTION TREATMENT OF VARICOSE VEINS

Appearing in this issue is an article dealing with the injection method for the cure of varicose veins. There is a tendency upon the part of the profession as a whole to scoff somewhat whenever an injection method is advocated, primarily no doubt, due to the fact that such methods have been widely exploited by the unethical advertiser, as cures without the knife. Such a condition leaves many physicians in the role of "Doubting Thomas", and not without good reason. It is time, however, that certain procedures should receive the credit due them and be accepted as a safe, and sane means to an end.

There are certain types of leg varicosities and varicose ulcers where no type of treatment is of any particular avail, i. e., where there has been a complete blocking of the deep veins of the legs and it is here that any treatment will probably be discredited.

The standard surgical treatment for varicose veins or ulcer has been section, and removal of the varicosities by many different technical methods. In most cases ligation of the greater saphenous has been advocated and in case an ulcer is present it is very important that the large vein "feeding" the ulcer be ligated and removed. If all the superficial veins which are dilated and the veins mentioned above so treated, a cure will ensue in the greater majority of cases. The surgical method requires however the following: an

anesthetic either general or spinal, a period of bed rest of about three weeks, preferably in the hospital; the production of considerable scar, and quite an outlay of expense.

The injection or sclerosing method presents quite a different aspect. No anesthesia is required, practically all discomfort is very temporary and the treatment does not require any stay in the hospital and under such circumstances can be repeated as often as necessary to produce a cure, while if one operation does not cure it is very difficult to persuade a patient to go through the same experience and outlay of expense as before.

The chief danger in the injection method is apparently the production of a slough due to injecting the solution outside of the vein, which can only be considered as a distinct error in technique and not the fault of the method.

The danger of embolism is undoubtedly a bogey, because after a review of the reports on such cases there are not as many deaths from embolism as occur after an equal number of various surgical procedures.

The end result of the two methods are essentially the same. One removes the entire vein, and the other obliterates the venous channel. After a thorough perusal of the literature and observation of cases it is our frank opinion that the injection or sclerosing method of the treatment of varicose veins should supercede the older surgical procedures, that the use of sodium salicylate in 20-30 per cent solution is probably the best agent, very sure in its action and not producing any untoward results. It should not be injected in amounts over 30 c.c. at any one sitting.

If this procedure is carefully followed with perfected technique many people who have been hesitant to have an operation for varicosities and the accompanying ulcers can be given the promise of relief from a rather distressing condition.

We are in hopes that the method will not be abused, so that it not be discredited, as we are distinctly convinced that it has very decided merit.

STERILIZATION OF THE UNFIT

The physician has always held himself aloof from the field of politics—not because he is indifferent to civic duties, but because active participation in politics has seemed incompatible with full devotion to his professional duties. This intentional neutrality is to be considered a virtue rather than a vice. But the rapid development

of public health activities, the development of new problems as the practice of medicine has become intimately involved with other phases of modern life have forced the physician to modify his neutral attitude in as much as active interest in legislation concerning public health or intimately affecting his professional life has become a part of and not a diversion from his duties as a physician.

A measure which must command the attention of the medical profession of the state because it has so vital a bearing upon public health and welfare is the so-called Sterilization Act. The physician can best understand the sound scientific basis upon which this act rests, since his work brings him into close contact with, gives him an intimate knowledge of the problems of the unfit, a contact and a knowledge which take the law of heredity out of the realm of theory and give it an often tragic reality. He recognizes as definitely transmissible certain types of feeble mindedness, and finds a family history of epilepsy and psychosis in too large a number of patients to look upon their familial incidence as mere coincidence. The sinister significance of these family histories is intensified by the physician's consciousness of his own impotence—he recognizes the condition but is powerless to do anything to improve it. The one effective remedy would have been the selection of better ancestors—a selection which obviously cannot be left to the coming generation, or even to the present potential ancestors since by virtue of their deficiency, they are incapable of recognizing their mental and physical unfitness for parenthood. In fact, the unfit are for the most part the most casual of parents, merely accepting parenthood as incidental and inevitable, giving but scant heed to its responsibilities, accepting with like indifference their inability to reproduce their kind.

The present burden of the unfit is one which we must accept though the cost of their care in state institutions is a staggering one, aside from the greater, though less clearly traced cost of caring for the unfit and criminal classes who, springing from the same source, are still at large, a constant menace to the public. We may not shift this present burden because of humanitarian considerations and because selfish regard for our own interest and safety forbids it, but we may and should face the future issue squarely. We cannot be indifferent to the increasing burden, the greater problem which our children, and our children's children will have to face if the unfit, notoriously prolific, are allowed to continue to reproduce their kind. In so far as the present

generation of the unfit is concerned, the physician needs have small compunction in considering the advisability of sterilization. The physician, understanding the simplicity and safety of the operation of vasectomy, and even of the somewhat graver but still relatively simple procedure of salpingostomy, is not prejudiced as is the layman who confuses an operation which merely sterilizes the individual with one which unsexes him. The physician knows that the unfit rarely feels the loss of parenthood as a deprivation—the lower types are indifferent to the question of offspring or resentful of the burden which they impose while the higher types may wish to spare possible children the misery to which they themselves are doomed—and so is uninfluenced by a false pity at the thought of the blessings of parenthood of which he is to be deprived. The physician may accordingly face the problem of the future with an open mind, though for the most part not without what we may term his professional handicap. His work is with the individual and it has made of him an individualist; it is the sufferings and the handicaps of the individual which he seeks to alleviate, the problems of the individual which he seeks to solve, and he finds it hard to lose sight of the individual in considering the larger problems of humanity at large. Yet in the handling of other problems in which public welfare as well as the welfare of the individual are involved, as in the quarantining of contagious diseases, let us say, we have learned that the rights of the individual are always secondary to those of the public at large. Since the normal person is obviously of greater value to the community than is the subnormal person, it follows that the rights and the protection of the normal person must take precedence over those of the subnormal as a policy of public welfare. It is this larger viewpoint of which we must not lose sight in considering the present and the future problem of the unfit. Humane considerations demand that he should not be made to suffer unnecessarily for his handicap, that he should be permitted every privilege compatible with the rights of others. Among these others, we must also number his potential offspring, and since such offspring cannot be given the fundamental right to be well born, it would seem obvious, from the physician's standpoint at least, that it is better for him as well as for the world that he should not be born at all. It is as unfortunate for him as it is unfair to others that he should be born foredoomed to misery, dependence and often crime, to become a burden and often a menace to his fellows.

VIENNA NEWS

American prosperity has been well advertised. Moreover, propaganda carried on by deluded apologists at home and crafty diplomats abroad have succeeded in placing Uncle Sam before the world as a greedy, international Shylock. Only after an American doctor has been ill and is asked to contemplate various bills submitted by hospital accountants and attending physicians will the connection between the propositions mentioned and the post-graduate study of medicine in Europe become clear. In a few instances the amounts suggested as a basis of settlement resembled somewhat the report of a reparations commission. At a recent business meeting of the American Medical Association of Vienna the question of fees for professional services rendered American doctors abroad was given a thorough ventilation. In this discussion every kind of experience was reported. It would seem that it is all a matter of arbitrary individual arrangement. We are inclined to believe that the size of the honorarium expected will depend to some extent on the behavior of the patient's friends towards his entourage. A hypercritical and unreasonable attitude on their part is apt to increase expenses accordingly. We might say too, that it is expedient to avoid the artist who speaks English with painful accuracy and characteristic fluency, a "touch" of the native dialect will be much more reassuring to the sophisticated traveler. "Among the pictures that hang on memory's wall", there is none more vivid and beautiful than the thoroughly scientific and devoted attention given one of our American colleagues by a Vienna specialist of international fame.

Not only was every professional courtesy extended to the patient but his visitors were privileged to "sponge" a valuable post-graduate course on the management and prognosis of acute tuberculous pleuritis. Even after tubercle bacilli were demonstrated in the exudate our dis-

tinguished confrere insisted that the chances of recovery were good. A short time ago we had the delightful experience to verify this prediction, by direct personal inspection. Naturally, we reviewed the lugubrious journey from a rooming house on Lazareth-gasse to the Wiener Wald-Sanatorium on the sheltered side of rugged and picturesque alpine formations. Prices for rooms in this model institution were considerably less than those prevailing in the United States for similar accommodations. So far as the treatment was concerned we remembered more particularly the emphatic disapproval of repeated aspirations of fluid from the pleural cavity. This operation was done but once and then only for the purpose of diagnosis. Through a punctured incision the needle was inserted and a small amount of exudate was withdrawn. When we reflect that mixed infection is the great danger in all forms of tuberculosis the logic of this standpoint is readily appreciated. It is true that the observation here recorded dates back twenty-four years. Since then much

water has flown under the "Reichsbrücke". At the same time we are bound to observe that the traditional cheerfulness and kindness of the "Echte Wiener" is still a living fact. We are sorry for any physician who has developed such colossal professional distinction that he finds it necessary to accept a fee for attending a colleague. He has missed one of the fine things in life. He has failed to discover the joyous fact that it pays to preserve this oasis in the desert of present day commercialism.

We have always suspected that there was something wrong with the "certificates granted only to those who have taken course covering a period of not less than three months under the teaching staff of the University". It has now been decided to have these documents engraved. Even with this improvement the intended purpose of these placards is not well served because

DR. Nicholas Schilling, of New Hampton, Iowa, has again furnished us with an intimate pen picture of the post-graduate student's life at the Medical Clinics of Vienna.

His discussion of certain ethical and economical problems which he has encountered will interest you. His observation relative to the treatment of empyema furnishes food for thought.

the color scheme is too conservative. There is much to be said in favor of the argument that to trouble European teachers with importunities calculated to secure their signatures to a mere certificate of attendance is not a dignified procedure. Since the "Zeugnis" in question amounts to nothing more than the simple confirmation of the recipients veracity it would seem that a really representative self-respecting doctor might well dispense with so questionable a distinction. Occasionally, the orientation committee of our association has had to contend with another very perplexing problem. It has involved nothing less than the disposition of a prodigy who has condescended to grace this classical medical center with his presence only to find that there was nothing here for him to learn. Was ever man confronted by a more baffling dilemma! It is true that in a measure he had anticipated his difficulties. After having found his worst fear realized he confided to his advisors the information that he had really come over to do "research work", as an aid in popularizing prohibition in Europe. Experiments which would determine, once for all, the effects of alcohol and tobacco on the human organism should have been considered the only scientific enterprise in keeping with his distinguished family name and worthy of the ambitions and individualistic tendencies so apparent in this advanced student. But committees are mundane expedients. So in this instance human capacity failed to appreciate the full possibilities of the situation. On recognizing the immense tonnage of the individual in question our committee simply collapsed and feebly adjourned.

In the popular mind of the ninth Bezirk there are still current legends of spectacular and noisy escapades staged by senile and youthful American plutocrats who were inclined more to the "agricultural pursuit of sowing wild oats" than they were towards the serious study of medicine. It needs to be recorded that this phenomenon has now faded away into the shadows of medical anecdote. It seems that it has disappeared from the landscape with the old imperial order of things. The type of rich man's son whose chief occupation consists in squandering the "coin" of indulgent and snobbish parents has had his day. He is no longer taken seriously anywhere. It may be presumed that the reason for his absence here may be found in the circumstance that American Medical Schools have ceased to turn out that kind of a model.

Last week the great French surgeon, Victor Pouchet visited Vienna. The passionate inter-

est and the fine enthusiasm that he exhibited in all the things that concern his profession were an inspiration indeed. In talking to a small group of doctors he quoted Benjamin Franklin to the effect that the cultivation of one's faculties is the best investment any one can make. It follows that every physician is in duty bound to make as good a doctor out of himself as his means and his talents will allow. Therefore, the stereotyped complaint that the physician is a poor business man really amounts to a compliment. He cannot be anything else and remain true to his calling. The only logical investment he can make is to continue throughout his life the systematic and the intensive study of medicine. If he is particularly crafty he will realize early that any one of a dozen specialties is important, interesting and comprehensive enough to occupy his time indefinitely. That such an ideal course will give the best results even from a purely material standpoint is a fact that does not seem to be generally known. There will be few exceptions to the rule that the average practitioner would receive more uniformly gratifying financial returns by placing his money on a course of internal medicine here in Vienna than he will in buying a farm or playing the stock market. Anyway, there is no more pathetic figure in all christendom than the doctor who thinks that he is a keen business man.

DR. HENRY ALBERT REAPPOINTED COMMISSIONER OF HEALTH

Notice has just been received that Dr. Henry Albert of Des Moines, has been reappointed as State Commissioner of Health by Governor Hammill. This appointment is for a four year period and assures the citizens of the state a continuation of the highly constructive and efficient program inaugurated by Dr. Albert during the past few years.

THE NOBEL PRIZE AWARDED FOR WORK ON IRRADIATED ERGOSTEROL

The 1928 Nobel Prize in Chemistry has been awarded to Professor Adolf Windaus, of Gottingen, Germany, for his work in proving that ergosterol, irradiated by ultra-violet rays, is the source of the antirachitic vitamin (Vitamin D).

This is the first time that the Nobel Prize Committee has recognized any of the scientific work done on the problem of human nutrition.

There is likely to be some dispute in this regard, as there were several workers on this same problem at the same time and it is not quite admitted that Professor Windaus' work was not inspired by that of others.

Legislative Committee Activities

Things happen so rapidly during the few weeks of the legislative session, that your Legislative Committee has great difficulty in keeping even the out-of-town members and the Deputy Councilors informed as to current progress. But below is a summary of what took place up to the spring recess. The Committee urges that every member familiarize himself with the measures here described; and write, telephone or telegraph his senator and representative for support of each one of them.

A MODERATE PROPOSAL TO INCREASE WORKMEN'S COMPENSATION LIMITS

(House File No. 111, by Cole)

House File No. 111 by Cole undertakes to change the Iowa law in such a manner that the hospitals and physicians of the state will receive a more nearly fair compensation for services rendered. The present total that is paid for both hospital and professional services is \$200. When the necessary cost of a case exceeds that low limit, both physician and hospital must have their bills cut.

In nineteen states statutory medical and surgical service is without limitations as to the total amount. Five of these states are on the Atlantic seaboard, five are western states, and nine are in the Mississippi Valley area. Of the Upper Mississippi states, seven have no limits, two have higher limits than Iowa. The southern states, for obvious reasons, have low limits; but the following tabulation shows that most northern states outrank Iowa:

No Limits	Higher than Iowa	
Nebraska	Missouri	250*
Minnesota	Ohio	200*
Wisconsin	West Virginia	800
Illinois	Maryland	500
North Dakota	Montana	500
Indiana	Utah	500
Michigan	Wyoming	300
New York	Oregon	250
Massachusetts	Louisiana	250
New Hampshire	Maine	indeterminate
Connecticut	Pennsylvania	indeterminate
Virginia	Delaware	indeterminate
Oklahoma	IOWA	200
Texas		
Washington	*Extensions or additional allowances by commissioner.	
Idaho		
Nevada		
Arizona		
California		

Only 1½% of Cases Affected

This is a minor matter as far as employers (or insurers) are concerned, as proven by the following extract from the industrial commissioner's eighth biennial report, page 14:

"The maximum limit of \$200 provided by our statute is adequate in a very large proportion of cases. In

the rare exceptions, however, there is wont to be grievous misfortune to the workman and serious sacrifice to hospitals and physicians. While the commissioner means always to be considerate and conservative in the matter of increasing the compensation burdens of industry, it is believed that justice demands an increase in the statutory allowance for physical relief to injured workmen.

Recommendation to this end is made after investigation showing that the change will only nominally increase the sum total of medical and hospital expenses to the employer or insurer. While this statement will be challenged, it is subject to convincing demonstration. These figures are submitted as the experience of six insurance companies leading in compensation coverage in Iowa, withholding names that appear herewith.

No. 1—Cases in which medical, surgical and hospital requirement exceed the 200—1.4 per cent.

No. 2—Limit exceeded in 173 cases out of a total of 9,031 or 1.9 per cent.

No. 3—Twenty cases out of 1,600 or 1.2 per cent.

No. 4—Four cases out of 100 or .4 per cent.

No. 5—Nine cases out of 1,765 or .5 per cent.

No. 6—Very small percentage reached maximum."

COUNTY HEALTH UNIT

(House File No. 214, by Public Health Committee)

This is a permissive bill only. It allows any county to employ the person or persons they desire to carry on any part or portion of health work.

The board of supervisors, only, are responsible for all monies expended. No expenditure may be made without their approval.

Several counties, with cities within their borders, desire to adopt the County Health Unit. If this bill becomes a law, it will merely allow these several counties to do as they may desire in the matter of protecting the public health.

This bill, if enacted, insures continuity of effort and does not call for an extra tax levy or extra expenditure.

It correlates and coordinates all health activities and avoids duplication, and therefore will result in a saving in your present program.

The County Board of Health is composed of people (county-wide) that are acquainted with what

they may now have operating within their county and are in position to advise as to the need or needs of their county.

It is approved by the State Department of Health.

County Health and Welfare Organization

Up to the present time our rural communities as a whole are much more poorly provided for in the way of health service than our urban districts. The figures submitted by the U. S. Public Health Service show that only about 19 per cent of our rural population is provided with what may be regarded as fairly adequate public health service. In Iowa, there is not a single rural district that is adequately supplied with such service.

A second fact is that the once much boasted superiority of rural areas as conservers of health no longer exists—not because the country is not naturally a healthy place in which to live, but because the natural advantages of the rural parts have been more than offset by the provision in urban areas of the means and facilities for protecting and promoting the public health. Infant mortality rates once much higher in urban than in rural districts, now show an interchange of positions because of better organized health and nursing service in most cities.

A third fact is that an investment in public health pays large dividends. The dividends from an adequate expenditure for health protection returns after few or many days, not always in the form of something to be sold in the market place, but in a form which no money value can properly represent—in the glow of health—in bodies fortified against disease, and in a community betterment.

The establishment of rural health service of a fairly adequate character is coming. In 1920 there were only 109 full-time county health units in the United States; in 1925 the number had increased to 280; and by the end of 1928, 461. These full-time units now exist in some thirty-five of our states. The co-ordinated method of doing health work has passed beyond the experimental state. It is very desirable to provide enabling legislation to authorize counties so desiring the right to adopt the method.

A study made in 1927 (Nation's Health, March, 1927) showed that at that time thirty states had definitely put legislation on the statute books, authorizing the county unit plan for health work.

PERKINS, HASKELL-KLAUS LAWS AMENDMENT

(House File No. 203, by Wamstad)

This bill provides for the charging of hospital services rendered by the State University Hospital, against the funds of the county which sends the patient. It also fixes a definite method of taxation to provide funds for such expense. The transportation and escort charges are to be paid out of general state funds. This is substantially the same measure which was voted upon favorably by the House of Delegates at the last annual meeting of the Iowa State Medical Society.

LAW ENFORCEMENT

(House File No. 185, by Elliott)

This bill would create a division of law enforcement which should end many of the difficulties and complaints with regard to irregular practitioners.

The State Department of Health, through its several examining boards, licenses physicians, osteopaths, chiropractors, dentists, nurses, embalmers, optometrists, podiatrists, barbers and cosmetologists to practice in the state of Iowa.

There are many violations of the several practice acts.

Only the barbers and cosmetologists have inspectors to investigate violations of their respective practice acts. The other eight "professions affecting the public health" do not have any inspector to investigate violations of their respective practice acts. The Bureau of Investigations connected with the office of the attorney-general does not have enough special agents to make more than a few investigations a year. The attorney-general recommends that the inspectors for the several practice acts be connected with the State Department of Health.

It is seldom that satisfactory evidence can be procured by local persons. The inspection, as the licensing, should be done by a state body.

The members of the several professions pay a certain sum for their license and a certain annual renewal fee to keep their license in force. These are obviously intended to be used for the administration of the law pertaining to these professions. They are not, we believe, intended to be a source of revenue. Nevertheless, for the year ending June 30, 1928, the receipts from examinations and renewal of licenses amounted to \$61,446.32, whereas, the expenditures in behalf of the administration of the law was only \$49,727.71.

It will thus be seen that there was turned into the state treasury as unexpended receipts the sum of \$11,718.61 which could, with great benefit to the people of the state, have been used for better administration—more especially the securing of evidence necessary for the law enforcement of the practice acts.

It is estimated that the cost of a division of inspection will be about \$10,000 a year. The bill provides that the expenditures on behalf of the administration of the several professions, including this inspection service, shall not exceed, in any given year, the receipts from such professions.

APPROPRIATIONS ASKED TO STRENGTHEN WORK OF STATE DEPARTMENT OF HEALTH

The following reasons for the creation of divisions of communicable diseases and child hygiene were given by Dr. Albert, State Health Commissioner, when presenting his budget to the budget director.

Communicable Disease Division

The prevention of the spread of contagious diseases is one of the chief functions of any health department.

There is no question whatever, but that more than one-half of our contagious diseases can be prevented if the work of prevention is properly organized.

This means not only the saving of much money paid for immediate treatment and quarantine expense, but also the prevention of many complications, such as the crippling in connection with infantile paralysis.

There is an urgent need of a strong division of communicable diseases since local health work is poorly organized in this state.

What is especially needed is a field man—an epidemiologist who may be sent, at state expense, to any place in the state when it is considered necessary, to not only control, but also to prevent the development of epidemics.

Child Hygiene Division

Health officials generally believe that their most constructive work can be done in connection with children. As a result, every state department of health in the United States, except Iowa and Colorado have a division of child hygiene.

These divisions cannot be created unless provision for such is made in the budget for the State Department of Health.

This is the time to write to your representatives in Des Moines urging them to make budgetary provision for these divisions in your State Department of Health.

Every physician owes it to the profession of which he is a part and the state in which he lives, to do what he can to enable the State Department of Health to become an efficient service department.

THE LATE CHARLES E. McCauley

The Sioux Valley Medical Society plays an important role for organized medicine in north-western Iowa. Both as a tribute to a former president of that society and as a part of a recent program, the Journal is publishing the following remarks delivered at the banquet of the society, January 22, in Sioux City, by W. R. Brock, M.D., of Sheldon, deputy councilor of O'Brien county.

"I believe that we are all aware that the joys and pleasantries of such occasions as this should not be marred by too much seriousness nor neutralized by any phase of sorrow. Yet, it might be well for us to pause for a moment to consider for ourselves the great loss that has come to the profession of the northwest and especially to this society through the recent death of one of our loyal and prominent members.

"Dr. Chas. E. McCauley was born in Indiana fifty-three years ago and died in Aberdeen, South Dakota, November 5, 1928. He had a brilliant and scientific mind and a disposition charitable toward all things. He arose to the very top of his profession during his twenty-five years of practice in Aberdeen. Afflicted with a muscular dystrophy for many years, his accomplishments seem all the more remarkable. Three years ago he was elected to the presidency of this great medical society and in the president's annual address upon the topics of Medical Ethics and Organized Medicine, delivered one of the most valuable contributions on this subject during that year. A short time ago he advanced the issue of raising the yearly dues from \$3 to \$5 and because of his efforts this society has \$1,000 in the treasury drawing interest. Dr. McCauley loved this society and while he had to travel 250 and 300 miles to its usual meeting places, he was always in attendance.

"We have greatly missed Dr. McCauley today; missed his pleasant greeting and fraternal hand shake. It is hard to think he will no longer appear in this medical circle. It is hard to think that he was cut down just in the sunniest hour of his voyage. It is hard to think how soon we are forgotten, how the world moves on just about as before and how little the individual amounts to after all. And yet, if along the pathway of life some cheer has been instilled into the human hearts, some hope has been revived, some thorn has been removed and in its place some flower planted; if after we are gone someone is really sorry; then life has not been a failure but a success and a benediction. And if the quiet hands or silent lips of our good friend Dr. McCauley could have sent us a message as we opened our meeting this morning it would have been a message of good cheer, expressing wishes that we might have a good time and a profitable meeting. And I am sure he would have closed his message to us with something like the words of Tennyson:

"Sunset and evening star
And one clear call for me
And may there be no moaning of the bar
When I set out to sea.

"Twilight and evening bell
And after that the dark
And may there be no sadness of farewell
When I embark."

"In closing my remarks on the passing of Dr. McCauley I wish to make one statement, not in a spirit of antagonizing any creed or dogma, but better still in a spirit surmounted by the highest and broadest conception of God's purposes and man's destiny and that is this: I am one of those who hope that sometime we shall all gather upon the majestic shore of the mighty sea of which Tennyson speaks so beautifully, while we sit in the quiet evenings listening to the angels sing, undisturbed by any tears of sadness and untouched by any memory of death."

IOWAN BECOMES SURGEON-GENERAL OF THE NAVY

It will interest many Iowa friends to learn of the appointment of Dr. Charles E. Riggs, Captain Medical Corps, U. S. Navy as surgeon general of the navy on December 26, 1928, to succeed Admiral Edward R. Stitt.

Doctor Riggs was born in Iowa City and is a graduate of the State University College of Medicine 1892. He entered the Naval Medical Corps in 1893. During the Spanish American War he served on the flagship of Admiral Sampson, and in the World War he was chief surgeon of the Asiatic fleet. Captain Riggs holds the record of the longest sea service of any medical officer in the navy. During the last two years he was commanding officer of the Naval Hospital at Washington, D. C. As surgeon general of the navy, he becomes a member of the National Board of Medical Examiners.

POSTGRADUATE MEDICAL ASSEMBLIES

The Interstate Postgraduate Medical Association offers two assemblies or clinical tours during 1929: One will cover the medical centers of America, beginning at Rochester, Minnesota, April 15, 1929 (physicians may join the group at Chicago, April 17, or at Cleveland, April 20, at proportionately reduced rates), and arriving back at Chicago, May 9. The total cost of this trip will be about \$500, including all necessary expenses.

The European tour will begin with sailing from New York on May 18, 1929; will cover the important foreign medical centers; and will end at New York on July 11, 1929. The total cost will be about \$1200.

Full particulars regarding these two very interesting and valuable assemblies may be obtained from Dr. W. B. Peck, Freeport, Illinois.

SECOND ANNUAL GRADUATE FORTNIGHT OF THE NEW YORK ACADEMY OF MEDICINE

The New York Academy of Medicine is making arrangements for a second series of lectures at the Academy, coordinated clinics, clinical demonstrations and courses in hospitals and teaching institutions of New York, on the subject of "Functional and Nervous Problems in Medicine and Surgery". The Fortnight will be held during the period October 7 to 19, 1929.

It is believed that this year's subject will attract not only the medical profession generally, but also social workers and those especially interested in public welfare. The field includes those functional disturbances which have been much neglected in the last thirty years in comparison with the structural disturbances of the human body.

Evening sessions will be held at the Academy at which well known authorities will discuss many

phases of the general subject. During the mornings and afternoons specially prepared clinical programs will be presented in a number of the leading hospitals of the city. The profession is generally invited to attend. No fee will be charged for attendance at any of the meetings or clinics on the program.

FIRST INTERNATIONAL CONGRESS ON MENTAL HYGIENE

Announcement is made that the First International Congress on Mental Hygiene will be held in Washington, D. C., May 5-10, 1930. This International Congress is a new organization, whose purpose it is to bring together representatives from this and foreign countries for the study of various problems of mental hygiene.

Among the American organizations which have been invited to membership are: the United States and Canadian National Committees for Mental Hygiene; the American Psychiatric Association; the American Association for the Study of the Feeble-minded; the American Neurological Association; the American Psychological Association; the American Orthopsychiatric Association; the American Association of Psychiatric Social Workers; and all State Mental Hygiene Societies in the United States.

THE NEUROLOGICAL INSTITUTE OF NEW YORK

Mr. Edward S. Harkness of New York City has recently donated \$150,000 to the Neurological Institute at the Medical Center in New York City. The new Institute buildings will be completed shortly at a total cost of \$1,900,000, and this recent gift by Mr. Harkness will bring the total subscribed amount to within \$150,000 of the entire amount required. The managers of the Institute hope within a very short time to raise the remaining \$150,000 so that the Institute may be opened without debt within the next six to eight weeks.

CHEMISTRY MEDAL TO MR. AND MRS. GARVAN

The American Institute of Chemists will award its medal "for noteworthy and outstanding service to the science of chemistry in America" to Mr. and Mrs. Francis P. Garvan, of New York.

Mr. Garvan was the organizer and is the president of the Chemical Foundation, and both he and Mrs. Garvan have given largely and unselfishly, of their time, and money, to the advancement of chemistry and chemical education.

At present, the Foundation is financing the intensive researches into the cause of the "common colds", which are being carried on in the Presbyterian Hospital Laboratories, New York, under the direction of Abel, Dochez and others.

Eighteenth Annual Medical Clinic of the College of Medicine

Announcement has been received that the Annual Medical Clinic, sponsored by the State University of Iowa and given by the faculty of the School of Medicine, will be held in Iowa City, Iowa, April 2 and 3, 1929.

PROGRAM

Tuesday, April Second

Morning

- 8:30- 9:00 Registration—University Hospital.
Surgical Amphitheater
- 9:00- 9:30 Addresses of Welcome — President Walter A. Jessup, Dean Henry S. Houghton.
- 9:30-10:30 Clinic—Fractures—Dr. H. L. Beye.
- 10:30-11:30 Clinic—Genito-urinary Surgery—Dr. N. G. Alcock.
- 11:30-12:30 Clinic—Internal Medicine—Dr. F. M. Smith.
- 1:00 Luncheon.

Afternoon

- 2:00- 3:00 Clinic—Pediatrics—Dr. P. C. Jeans.
Children's Hospital
- 2:00- 3:00 Clinic—Ophthalmology—Dr. C. W. Rutherford.
Ophthalmological Clinic Room
- 3:00- 4:00 Clinic—Orthopedic Surgery—Dr. A. Steindler.
Children's Hospital
- 3:00- 4:00 Clinic—Otolaryngology—Dr. D. M. Lierle.
Otolaryngological Operating Room
- 4:00- 5:00 Special Clinic—Dermatology — Dr. Richard L. Sutton, Professor of Dermatology, The University of Kansas.

Medical Amphitheater

- 6:30 Dinner and entertainment—Iowa Memorial Union. Visiting doctors will be guests of the College at dinner.
- 8:30 Address—Dr. Richard L. Sutton, Professor of Dermatology, The University of Kansas.

Wednesday, April Third

Morning

- 8:30- 9:30 Demonstration in Pathology—Dr. G. H. Hansmann.
Autopsy Room
- 8:30- 9:30 Demonstration in Roentgenology—Dr. O. W. Britt.
- Medical Amphitheater
- 9:30-10:30 Clinic—Neurology—Dr. C. Van Epps.
- Medical Amphitheater
- 9:30-10:30 Clinic—Obstetrics and Gynecology—Dr. E. D. Plass, Dr. N. F. Miller.
- Surgical Amphitheater
- 10:30-11:30 Clinic—General Surgery—Dr. F. R. Peterson, Dr. A. Kolodny.
- Surgical Amphitheater
- 10:30-11:30 Clinic—Psychiatry — Dr. A. H. Woods.
- Psychopathic Hospital
- 11:30-12:30 Address.

Afternoon

- 1:30- 4:30 Case presentations (10 minutes each). Detailed program will be announced later.
- 2:30- 4:30 Laboratory demonstrations — Special group.
- 2:00- 4:00 Ward walks—Special groups.

HEART ASSOCIATION NAMES NEW SECRETARY

The American Heart Association has appointed Doctor I. C. Riggan, as executive secretary to take the place of the late Doctor John A. Smith. Dr. Riggan was former health commissioner of Lorain county, Ohio, and for the past year executive secretary of the Heart Council of Greater Cincinnati. Dr. Riggan's new address will be 370 Seventh avenue, New York City.

ANOTHER CONVICTION UNDER MEDICAL PRACTICE ACT

William Lovell, of Ottumwa and Sigourney, twice convicted of practicing medicine without license, was again tried February 7, 1929, for violation of the injunction which prohibited him from practicing without a license. The court decided that he had violated the injunction. He was fined a thousand dollars for contempt of court and is now in jail at Sigourney.

SOCIETY PROCEEDINGS

Boone-Story Counties

Thursday, January 18, at Ames, Iowa, sixty members of the combined Boone-Story Medical Association met for a 6:30 dinner and program. The scientific program was, Psychoneurosis, M. J. Healy, M.D.; discussion led by F. H. Conner, M.D., of Ames; Infective Colds and Diseases of the Upper Air Passages, M. C. Jones, M.D.; discussion led by J. O. Ganoe, M.D., of Ogden.

Buena Vista Cancer Program

Wednesday, February 13, the Buena Vista County Medical Society met at the Bradford Hotel in Storm Lake, Iowa. After a 6:30 dinner served to guests and members of the society William Jepson, M.D., Sioux City, who is state chairman of the American Society for the Control of Cancer, addressed the society on Cancer. At the business meeting the following officers were elected: J. F. Kelley, M.D., president; H. E. Farnsworth, M.D., vice-president; E. F. Smith, M.D., secretary-treasurer.

Calhoun County

The Calhoun County Medical Society held its regular monthly meeting February 21, 1929, at Rockwell City with Dr. J. N. Hoit, Rockwell City, furnishing a scientific paper Intracellular Glands. The officers of the society are: Dr. W. C. Kennedy, president; Dr. C. T. Farlow, vice-president, and Dr. P. W. Van Metre, secretary-treasurer.

Cerro Gordo Cancer Meeting

The Cerro Gordo Medical Society held its regular monthly meeting Tuesday, February 19th, at the Hanford Hotel. Dinner at 6:30 preceded the program carried out at the suggestion of the State Society.

W. L. Rohlf, M.D., of Waverly and W. L. Hearst, M.D., of Cedar Falls, discussed the subject of Cancer thoroughly. A good discussion of their papers followed by Drs. C. E. Dakin, G. M. Crabb, W. J. Egloff, and T. A. Burke.

T. U. McManus, M.D., of Waterloo, president of the State Society, was honored guest and gave the history and outline of the cancer program for the state.

We are very grateful to have had these men with us and commend them for their courage in driving such a distance on the eve of the coldest night in northern Iowa.

—T. E. Davidson, M.D., Secretary.

Des Moines County Cancer Meeting

On February 12 in Burlington the Des Moines County Medical Society met at the Hotel Burlington.

Norman F. Miller, M.D., Iowa City, presented the cancer program.

Fremont County

The Fremont County Medical Society met in Sidney, February 15, 1929. The following clinical program was presented, using county cases: Case of Cerebrospinal Syphilis; Asthma with Cardiac De-compensation, Frank Conlin, M.D., of Omaha; Two Cases of Parkinson's Disease, Ernest Kelley, M.D., of Omaha; The Most Expensive Family in Fremont County (consisting of a father, mother and ten, twelve or fourteen children), T. B. Laeey, M.D., of Glenwood.

Shenandoah and Nebraska City doctors were guests. At the business meeting the following officers were elected for 1929: Dr. L. A. Baldwin, president; Dr. H. P. Cole, vice-president; Dr. A. E. Wanamaker, secretary-treasurer; Dr. A. R. Wanamaker, delegate, and Dr. Kenneth Murehison, alternate.

Hardin County

The Hardin County Medical Society held a bi-monthly meeting Tuesday, January 31, at Iowa Falls. After a 6:00 o'clock dinner at the Woods Hotel, H. W. Britt, M.D., of the College of Medicine of the State University of Iowa, addressed the society on Studying the Gall-Bladder Roentgenologically.

Hamilton Cancer Program

The Hamilton Medical Society met Wednesday, February 13, in Webster City. Following a 6:30 dinner the members adjourned to the office of W. W. Wyatt, M.D. For the program T. E. Thornton, M.D., of Waterloo, addressed the members on the Cancer Problem. T. U. McManus, M.D., of Waterloo, president of the State Society, was present and also spoke.

Ida County Annual Meeting

At our meeting which was held at the Hotel Baxter, Ida Grove, Iowa, on the evening of January 14, 1929, Dr. E. S. Parker was elected president; Dr. T. J. Houlihan, vice-president; Dr. C. G. Bretthauer, secretary-treasurer; Dr. C. G. Bretthauer, delegate, and Dr. E. W. Bookhart, alternate.

—C. G. Bretthauer, M.D., Secretary.

Jasper County Annual Meeting

At a meeting of the Jasper County Medical Society held at Newton, Iowa, on January 16, 1929, the following officers for the Jasper County Medical

Society were elected for the year 1929: President, Dr. F. E. Boyd; secretary, Dr. J. W. Billingsley; delegate, Dr. J. W. Billingsley, and alternate, Dr. F. E. Boyd.

—J. W. Billingsley, M.D., Secretary.

Johnson County

The Johnson County Medical Society had as their guests February 6, 1929, the Johnson County Dental Society. The following program was presented: Prevention and Arrest of Dental Caries, P. C. Jeans, M.D. Discussion opened by C. L. Drain, M.D. Some Types of Jaw Fractures, R. A. Fenton, M.D. Discussion opened by W. F. Boiler, M.D. E. M. MacEwen, M.D., took up briefly some of the anatomical features which must be kept in mind in the management of these fractures.

Jones County

At a meeting of the Jones County Medical Society held on January 10, 1929, an election of officers for the year 1929 was held, which resulted in the re-election of Dr. J. A. Hoegen of Wyoming as president and the election of Dr. C. R. Smith of Onslow as secretary.

Linn County Cancer Meeting

The regular Linn County Medical Society was held Thursday, February 14, 1929, at Cedar Rapids. Hosts were Drs. F. Carroll, A. E. Crew, H. M. Ivins, and L. M. Downing. The first part of the scientific program was the cancer talk by Professor H. L. Beye of the University Medical College, Iowa City, Iowa. The second part consisted of an obstetrical film.

Mahaska County Cancer Program

Tuesday, February 5, the Mahaska Society met in Oskaloosa and listened to an address on Cancer by Norman F. Miller, M.D., Iowa City. The paper was followed by an interesting discussion.

Marion County Cancer Meeting

The Marion County Medical Society held its regular meeting Wednesday, February 20, 1929. S. A. Spilman, M.D., of Ottumwa, presented an address on cancer. The meeting was held in the court house, the public was invited, and there was a good attendance. The society held a meeting afterwards at a local cafe.

Monona County

The Monona County Medical Society held its meeting Tuesday, February 12, at the Hotel Monona in Onawa. The scientific program consisted of Surgical Subjects, J. L. Townsend, M.D., of Sioux City; Acute Sinus Diseases, B. F. Sallender, M.D., of Sioux City. At the business session the following officers were elected: Dr. P. H. Beppler; Dr. J. J. Duffy, vice-president; Dr. E. J. Liska, secretary-treasurer.

Osceola County Cancer Program

The members of the Lyon County Medical Society were guests of the Osceola County Medical Society at a meeting held in Sibley, Monday, February 11, for the purpose of discussing the cancer problem. William Jepson, M.D., of Sioux City, addressed the group on the subject.

Page County Cancer Program

The Page County Medical Society was host to Montgomery and Fremont Medical Societies, Thursday, February 21, at the Delmonico Hotel in Shenandoah, Iowa. After a six-thirty dinner the following program was given: C. N. Marvin, of the Shenandoah Sentinel, Medical Publicity, Past and Present in Shenandoah; Donald Macrae, M.D., Council Bluffs, Cancer Control. A fifteen minute cancer talk was broadcast from KFNH at six o'clock by Drs. Macrae and Aldrich.

Scott County

Tuesday, February 5, the officers of the Scott County Medical Society were hosts to the other members at a dinner served in the Lend-a-Hand Club at 6:30 p. m. Mr. Vernon D. Blank, Des Moines, managing director of the State Society, explained the enlarged program of the State Society for rendering service to the component societies and individual members, and dwelt particularly upon legislative matters. Mr. W. A. Newport, attorney of Davenport, explained briefly the purpose of his firm in writing a circular to Iowa physicians asking their advice regarding the proposed measure restricting alcoholic prescriptions. Following a discussion upon these matters of legislation and medical economics, a scientific paper was presented. Dr. Earle P. Scarlett of the State University Medical College faculty read the paper, Nephritis with Anemia.

Sioux County Meetings

The Sioux County Medical Society was entertained by Drs. T. E. McCaughan and F. C. Bendixen at Ireton, Iowa, December 14, 1928. Papers were read by Wm. Doornick, M.D., Orange City on Secondary Infectious Arthritis, and F. C. Bendixen, M.D., of Ireton on Ectopic Pregnancy. It was decided to hold meetings every two months during the year 1929. The following officers for 1929 were elected: President, Dr. R. W. Cooper; vice-president, Dr. Wm. Doornick, and secretary-treasurer, Dr. F. C. Bendixen.

The Sioux County Medical Society was entertained by Drs. G. Maris and S. H. Sturrmans at Hull, Iowa, February 12, 1929.

A series of cases demonstrating the following conditions were shown by the Drs. G. Maris and S. H. Sturrmans: Intussusception, Purpura Haemorrhagica, and Mononucleosis. It was voted that a cancer program be put on at Hull, Iowa, to be open to the public. The next meeting is to be held at

Orange City in April and to be entertained by Drs. Wm. Doornink, R. W. Cooper and D. J. Gleysteen.
—F. C. Bendixen, M.D., Secretary.

Tama County

The Tama County Medical Society held a meeting in Toledo, Iowa, February 20, at which Dr. Jacob Breid, superintendent of the Government Indian Sanitarium, located in Toledo, gave a report of a case of Undulant Fever. An interesting discussion followed the reading of the paper. At a business meeting following the program the society went on record as endorsing Dr. Thos. A. Burcham's work as chairman of the legislative committee, and passed a resolution to that effect. We are to meet in April at Garwin, Iowa. —K. E. Fee, M.D., Secretary.

Washington County Cancer Meeting

The Washington County Medical Society held its regular monthly meeting, Thursday evening, February 7, 1929. Dinner was served at the County Hospital at 6:30 p. m. after which the physicians gathered in the parlors of the nurses new home, where a cancer program was presented by Howard L. Beye, M.D., professor of surgery at the State University. There was a good attendance, and great interest taken in the lecture and the discussion following.

—W. S. Kyle, M.D., Secretary.

Webster County Cancer Program

On Tuesday evening, February 19, there was a meeting of the Webster County Medical Society. The speaker of the evening was furnished by the Iowa State Medical Society as a part of the state wide program for cancer prevention. Dr. Robert Weston of Des Moines, Iowa, gave a very interesting as well as instructive paper on cancer. He stressed the point of early diagnosis to be followed by surgery or adequate radium or x-ray treatment. The paper brought forth a very liberal as well as an interesting discussion which was entered into by most of the members of the society. Following the paper there was a short business session at which time Dr. McCreight, the deputy councilor, gave a report of the Legislative Committee upon bills to be acted upon by the present legislature. The society gave its endorsement to all those measures presented.

—J. C. Shrader, M.D., Secretary.

Woodbury Cancer Program

The February meeting of the Woodbury County Medical Society was held Monday, February 25, at Sioux City. After a 6:30 dinner served at the Jackson Hotel, A. V. Hennessy, M.D., of Council Bluffs, addressed the society on Cancer.

Waterloo Medical Society Cancer Program

Charles Mayo, M.D., of the Mayo Clinic, Rochester, Minnesota, addressed the physicians of Water-

loo and Iowa at a dinner of the Waterloo Medical Society in Waterloo, February 21, 1929, Dr. Mayo's subject was the Cancer Problem.

A Memorial Service for Dr. M. L. Turner

At the regular monthly meeting of the Polk County Medical Society February 27, 1929, a memorial service was held for Dr. M. L. Turner who died on Saturday, January 26, 1929.

Dr. Edward R. Posner spoke of him as an office associate, which covered a period of twenty-five years. "As we grow older our friends leave us one by one, to join the throng of those who have ceased to live, and leave us only pleasant memories that we cherish. So it has been with Doctor Turner. My association with him began in 1905 when he was in the Citizens' National Bank building, now the Iowa National Bank building, with Doctor Kelleher, who died in 1916, and Doctor Shore. He was in general practice. When I joined their happy family, being a novice, I had much to learn of the art of medicine. I found them all apt teachers. Doctor Turner, then a bachelor, willingly taught me many a lesson that I still remember. I found him a man of high ideals, studious and honorable to a fault. He gave the best in him to those whose pleasure it was to consult him. He entered intently upon insurance work for a few years, and changed offices. It was my good fortune again to be associated with him about 1916, when he joined Doctor Rockafellow (whose recent death is still regretted) and my self in the Equitable building, now the Bankers Trust building. During this interval he had gone to Harvard University and entered the study of pediatrics to which specialty he had later confined himself. Of his success in his field of choice others will speak. Doctor Turner was a man of unusual mental constitution, never in twenty-three years, had I seen him angry or perturbed. Never had I heard him speak an unkind word to one or of one. Never had he, to my knowledge, used a profane word. Profanity was not his. He was not envious of the achievements of others. He viewed life complacently, loved life, enjoyed his books, took pleasure in his work and always held Abraham Lincoln as his great hero. He filled his own niche in life as best he could, no effort too burdensome. No help for those who needed his assistance was in vain. He was courteous to everyone, a gentleman at all times. His home life was enviable. Such a man has passed from our association. True to his friends, true to the ideals of his profession, and true to the noblest in life, he has bequeathed a legacy to those whose pleasures it was to have social or professional contact with him. His memory will be revered."

Dr. Fred Moore referred specially to Doctor Turner's services as a pediatrician.

"It is of our associate as pediatricist that I speak. My acquaintance with him began when I was a senior student at Iowa City. He had nourished an

increasing interest in pediatrics and was then engaged in dissociating his activities from other phases of practice. He was a great admirer of Doctor Jacobi, and a close follower of John Lovett Morse of Boston, in whose clinics he spent several summers, and Doctor Abt of Chicago. He missed no opportunities to improve his abilities. He attended almost all sessions of the Central States Pediatric Society and the pediatric section of the American Medical Association. His opinions were always given a careful hearing because they were so well tempered with common sense. His occasional absence was invariably a cause for comment among a wide acquaintance for his genial presence was missed.

"At home—professional contacts with him have been attended with unusual satisfaction. His counsel was sane, cheerful, generous, and always available. His interests in anything pertaining to his chosen field were never questioned. They were always manifest. They stimulated his observation to unusual capacity. No detail was too small to escape his attention. No interval was so long as to impair the usefulness of his observation. He was quick to observe, independent in conclusions, unshaken in his belief.

"His outstanding contribution is the development of Infant Welfare Clinics in Des Moines. This interest was already manifest when I first knew him. In subsequent years during meetings in other cities he never failed to review this type of work and bring the benefits to our community. Nothing in his life was permitted to interfere with his services to these clinics. In conclusion I shall read from a letter from the Public Welfare Bureau to Mrs. Turner. 'He joined with the Public Health Nursing Association to launch the city's first Well Baby Clinic in 1914. During later years he unselfishly gave his time in attendance on several such clinics held each week in different sections of the city. He was the inspiration and the leader of this important work to make Des Moines a better city, a work which cut the infant death rate of Des Moines in two and saved hundreds of Des Moines boys and girls from the disabilities which arise in the neglect of health. * * * Doctor Turner's gift to Des Moines has been continuous and thorough. It was made cheerfully and willingly. It was the natural expression of his genuine deep interest in others.'"

Dr. Walter L. Bierring spoke particularly of Doctor Turner's interest in medical societies, and general professional relations in the following words:

"In passing along life's pathway, there appears here and there a friend, who by the cheer of a happy greeting, a fine spirit of fellowship and the telling of an apt story, helps to clear many a cloud by the way. Such a friend was our colleague who has passed from our midst.

"My acquaintance with Doctor Turner dates from the Des Moines session of the State Medical Society in 1908. As presiding officer of the meeting, I was

brought in close contact with Doctor Turner, who was the chairman of the local committee on arrangements. I was impressed by his fine spirit of friendly interest and ambitious desire to make a success of every venture with which he was associated. When a few years later I became a resident of this city, our acquaintance became more intimate and his friendship was one of the bright spots in my Des Moines experience. His interest in the Polk County Medical Society was typical of his devotion to medical society organization. During his year as president he sponsored clinical programs and better coordination between the county society and the city hospital, health center clinics, and other community welfare activities.

"He was a faithful attendant at the sessions of the State Medical Society, and during the last fifteen years rarely missed a meeting of the American Medical Association. He contributed a number of papers before the session of the Section on Diseases of Children of the American Medical Association that were very favorably received.

"In recent years he took an active part in the proceedings of the Association of American Teachers of Pediatrics, being specially interested in the teaching of nurses for pediatric work.

"When the Iowa Society of Medical Life Insurance Examiners was organized in 1915, Doctor Turner was elected secretary and treasurer which office he held to the time of his death.

"His closest friendships were formed as the result of medical society contacts. A droll humor with a rare faculty for telling a fitting story for every occasion added a distinct charm to his companionship. It was one of life's privileges to have known Doctor Turner."

The previous speakers formed a committee to formulate an appropriate testimonial from the Society, and the following was adopted.

DR. M. L. TURNER—AN APPRECIATION Polk County Medical Society

With the death of Doctor M. L. Turner on January 26, 1929, there passed from the fellowship of the Polk County Medical Society one of its most loyal members, an honored past president, and a friend of scientific medicine.

Throughout a quarter of a century, he stood out as an example of faithful society membership, devoted to every interest and activity in which it was engaged. By his frequent papers and discussions on general medicine, the special field of life insurance examinations, and diseases of children, he added greatly to the scientific interest of the society proceedings.

His contributions to the programs of the Iowa State Medical Society and the Section on Diseases of Children of the American Medical Association,

were always favorably received and thus added distinction to Iowa medicine.

As a pioneer in pediatrics in Des Moines, and the founder of public baby clinics, he contributed a community service of very high order.

In the added charm of personal contact, he left the impress of his happy genial nature. His friendship will be a treasured memory of every member of this Society.

It is recommended that this tribute of regard for Doctor Turner from the Polk County Medical Society be recorded in the minutes, and that a copy be forwarded to his bereaved wife, as well as to the local press and the Journal of the Iowa State Medical Society.

Committee—

Edward R. Posner,
Fred Moore,
Walter L. Bierring.

PERSONAL MENTION

Dr. John W. Martin of Des Moines has been honored by election to the vice-presidency of the United States Fidelity and Guaranty Company of Baltimore, Maryland, and is also to assume the position of medical director. Dr. Martin is leaving in March for his new post, after having spent fifteen years in Des Moines in the practice of traumatic surgery.

Dr. A. P. Stewart of Inwood suffered severe injuries the night of Friday, January 18, when an automobile which was out of control crashed into his car. He had three ribs fractured but is getting along nicely, according to late reports.

Dr. W. S. Chester of Knoxville is locating temporarily in Albia, to be associated with Dr. R. E. Gutch of the Miners' Hospital.

A father and son combination will be effected about March 1 when Dr. Herman DeWitt of Malmo, Nebraska, goes to Glenwood to be associated with his father, Dr. Charles H. DeWitt in the practice of medicine and surgery.

Another father and son partnership has been started in Bedford, Iowa. Dr. J. T. Maloy, long a member of Taylor County Medical Society has now associated with him, his son, Dr. Wayland Maloy, graduate of the State University of Iowa Medical College, 1927.

Dr. F. M. Mahin, formerly of Plainfield, Bremer county, has moved to Washington county and is located in Ainsworth.

Dr. H. J. Wright of Des Moines, former Polk county coroner, is at Jefferson Barracks, Missouri, where he is confined to the hospital following complications that succeeded an operation for appendicitis.

OBITUARIES

Bilby, A. M., of Galva, died February 4 at the age of seventy-four; graduated in 1882 from the College of Physicians and Surgeons, Keokuk. At the time of his death he was a member of the Ida County Medical Society.

Turner, Matthew L., of Des Moines, died January 26 at the age of sixty-four of pneumonia; graduated in 1896 from the Medical College of Indiana, Indianapolis. At the time of his death he was a member of the Polk County Medical Society.

Helfgott, Max A., formerly of Sioux City, died in Washington, D. C. recently, at the age of forty-six; graduated in 1912 from the Maryland Medical College, Baltimore. He had long been a member of the Woodbury County Medical Society.

Powers, Thomas E., of Clarinda, died February 14 at the age of seventy-two; graduated in 1881 from the Missouri Medical College, St. Louis. At the time of his death he was a member of the Page County Medical Society.

Lewis, D. W., of Inwood, died December 20 at the age of seventy of carcinoma of the colon; graduated in 1892 from the State University of Iowa College of Medicine, Iowa City. At the time of his death he was a member of the Lyon County Medical Society.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Physician, \$3,800 a Year

Associate Physician, \$3,200 a Year

Applications for the above-named positions must be on file with the Civil Service Commission at Washington, D. C., not later than June 29.

The examinations are to fill vacancies in hospitals of the Veterans' Bureau for duty throughout the United States.

The entrance salaries are as indicated above. Higher salaried positions are filled through promotion.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

On account of the needs of the service, papers will be rated as received and certification made as the needs of the service require.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or custom house in any city.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE—Committee Report, Harold E. B. Pardee, M.D., Chairman—Paul B. Hoeber, Inc., New York—Price \$1.50.

DISEASES OF INFANTS AND CHILDREN—By Henry Dwight Chapin, A.M., M.D., and Lawrence Thomas Royster, M.D.—William Wood and Company, New York—Price \$7.50.

RECENT ADVANCES IN CHEMISTRY IN RELATION TO MEDICAL PRACTICE—By W. McKim Marriott, B.S., M.D.—The C. V. Mosby Company, St. Louis—Price \$2.50.

PROBLEMS IN SURGERY—By George W. Crile, M.D.—W. B. Saunders Company, Philadelphia and London—Price \$4.00.

INTERNATIONAL CLINICS—Edited by Henry W. Cattell, A.M., M.D.—J. B. Lippincott Company, Philadelphia and London.

THE INFANT AND YOUNG CHILD—Its care and feeding from birth until school age—A manual for mothers—By John Lovett Morse, M.D., Edwin T. Wyman, M.D., and Lewis Webb Hill, M.D.—Philadelphia—W. B. Saunders Company, 1929. Cloth \$2.00 net.

THE MEDICAL CLINICS OF NORTH AMERICA—Vol. 12, No. 4—Philadelphia Number, January, 1929—Per clinic year, July, 1928 to May, 1929—Paper, \$12.00; \$16.00 net. Philadelphia—W. B. Saunders Company, 1929.

HISTORY OF MEDICINE—With Medical Chronology—Suggestions for Study and Bibliographic Data by Fielding H. Garrison, M.D., Lt., Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington, D. C.—W. B. Saunders Co., Philadelphia, 1929—Cloth, \$12.00 net.

CERTIFIED MILK—Proceedings of A.A.M.M.C., C.M.P.A.A., and M.C.M.P.—Published for the Associations 1928.

SPINAL ANESTHESIA—(Subarachnoid Radicular Conduction Block)—Principles and Technique by Charles H. Evans, M.D.—Introduction by W. Wayne Babcock, M.D., F.A.C.S., Foreword by Charles Gordon Heyd, M.D., F.A.C.S.—Paul B. Hoeber, Inc.—New York, 1929—Price \$5.50.

WHAT EVERY ONE SHOULD KNOW ABOUT EYES—(The National Health Series) by F. Park Lewis, M.D., F.A.C.S.—Funk and Wagnalls Co.—New York, 1929—Price \$3.00.

DIABETES AND ITS TREATMENT—(The National Health Series) by Frederick M. Allen, M.D.—Funk and Wagnalls Company—New York, 1928—Price \$3.00.

CARE OF THE MOUTH AND TEETH—(The National Health Series) by Harvey J. Burkhart, D.D.S., LL.D.—Funk and Wagnalls Company—New York, 1928—Price \$3.00.

ANGINA PECTORIS—By Harlow Brooks, M.D.—Harper's Medical Monographs—Harper and Brothers, New York, 1929—Price \$2.50.

BOOK REVIEWS

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS

By Hugh A. McGuigan, M.D. Professor of Pharmacology and Therapeutics, University of Illinois, School of Medicine, Chicago. Octavo Volume of 660 Pages, Illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$6.00 Net.

This is a new textbook in pharmacology, and seems particularly adapted to the use of medical students, although in its frequent application of pharmacologic principles to treatment, it will prove of valuable reference to the general practitioner.

The simple statement of facts known regarding each drug, which is the dominant feature throughout

the book, is more gratifying than a complicated statement of conflicting or fragmentary ideas which often leave a rather vague imprint upon the memory.

Experimental pharmacology forms the basis of drug action wherever possible, and this constitutes a good foundation for therapeutic analysis. A further commendable feature is the attempt to connect physiology, biochemistry and pharmacology with clinical application.

There is a consistent use of the metric system, and the chapter on prescription writing is complete with practical information. It ably fulfills its purpose as a valuable work on reference in advanced pharmacology for both students and practitioners.

W. L. B.

THE SURGICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 8, No. 6. (Pacific Coast Surgical Association Number—December, 1928.) 277 Pages With 118 Illustrations, Including Complete Index to Volume 8. Per Clinic Year (February, 1928, to December, 1928): Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.

This number is dedicated to the memory of John Hunter on the Bi-centennial of his birth. The first article is by Dr. Edgar Lorrington Gilcreest of the University of California Hospital and is entitled "John Hunter the Founder of Scientific Surgery". The sketch is well written and is an extremely interesting short outline of his life work. The clinical section presents a number of interesting clinical subjects.

F. W. F.

THE SURGICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 8, Number 5. (New York Number—October, 1928.) 293 Pages With 141 Illustrations. Per Clinic Year (February, 1928 to December, 1928): Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.

This number contains nineteen distinct clinical contributions on general surgical subjects, chiefly abdominal and fractures. The first article is by Dr. F. W. Bancroft of the Fifth Avenue Hospital, on acute appendicitis, with a reference to the advances in treatment during the last ten years and the possible progress for the ensuing ten years. Dr. Clay Ray Murray presents some interesting fracture work. There is also a preliminary report by Dr. Kingsley Roberts on the use of M. B. G. V.-5, an antiseptic mixture to be used in the preparation of the operative field.

F. W. F.

PEDIATRICS FOR THE GENERAL PRACTITIONER

By Harry Monroe McClanahan, A.M., M.D., Professor of Pediatrics Emeritus, University of Nebraska; Member of the American Pediatric Society, Ex-President of the Nebraska State Medical Association. 600 Pages; 230 Illustrations. Published by L. P. Lippincott, Philadelphia, 1929.

This book is a clinical presentation of the problems of pediatrics as they are encountered by the family physician. It is not offered as a formal academic treatise.

The table of contents includes chapters on birth injuries, congenital malformations and defects, diseases of the newborn, breast and artificial feeding.

The subject is further expanded by considering

separately, the digestive tract, the respiratory tract, the nervous system, the heart and circulatory system, and the lymphatic system.

There are chapters on contagious diseases, skin diseases, and diseases of the bones and joints. The final chapter gives instruction to the physician concerning the newer methods of diagnosis and treatment: as, lavage, gavage, hyperdermoclysis, intraperitoneal injections, intravenous administration and spinal puncture.

Dr. McClanahan, the pioneer pediatricist of the Missouri Valley, has written so many of his private case histories and personal views into this book, that one might say it is autobiographical.

This volume can be highly recommended to the busy medical practitioner as a daily aid. Because of its excellent arrangement, any subject can be quickly found and the author's opinion obtained.

J. E. D.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Third Series—Volume the Forty-ninth—Philadelphia—Printed for the College—1927.

This volume contains a complete list of the officers of the college, together with a roster of all members. Following this section is one devoted to memoirs of academy members. The remaining page space is devoted to clinical papers, including the address of the president, Dr. Hobart A. Hare.

Particularly outstanding of these original contributions is that of Dr. Eugene L. Opie on "Infection with Tuberculosis in Children and in Adults, and the Relation of One to the Other", and the article by Astley P. C. Ashhurst entitled "The Centenary of Lister: A Tale of Sepsis and Antisepsis". The Mutter Lecture delivered by Dr. E. Starr Judd entitled "The Pathogenesis of Gastric and Duodenal Ulcers" furnishes a very complete resume of our present knowledge of the subject. The proceedings of the section of ophthalmology are reported in the closing section of the book; many of the papers, however, are reported either in abstract or by title.

TEXT-BOOK OF UROLOGY

For Students and Practitioners. By Daniel N. Eisendrath, M.D., Attending Urologist, Michael Reese and Memorial Hospital, Chicago, and Harry C. Rolnick, M.D., Associate Urologist, Mt. Sinai Hospital, and Adjunct Urologist, Michael Reese Hospital, Chicago. 700 Black and White Illustrations and 11 Plates in Color. Price \$9.00. J. B. Lippincott Co., Philadelphia.

Modern urology demands a knowledge, not only of the venereal diseases and the surgery of the urogenital tracts as formerly, but also a skillful appreciation of the cystoscope, the ureteral catheter, and the x-ray. A physician cannot pose as a urologist unless he is as well prepared to diagnose and treat

lesions of the upper urinary tract as those of the lower tract. He must be as familiar with diseases and functional disorders of the genital system as he is with those of the urinary system. An appreciation of these facts, together with a daily contact with general practitioners and students, has shaped the writing of this text. It properly stresses the modern methods of diagnosis and treatment and renders the subject matter more lucid by the general use of well selected and exceptionally well reproduced photographic illustrations and colored drawings.

The paragraphic style of presentation with stress gained by bold face type renders the book exceptionally useful for the use of students. The footnote reference to current literature adds to its value as a reference book for the advanced student or general practitioner. It is one of the best text-books on this subject yet published.

A MANUAL OF THE PRACTICE OF MEDICINE

By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Twelfth Edition, Revised. 12 Mo of 657 Pages, Illustrated. W. B. Saunders Company, Philadelphia and London, 1928. Cloth, \$3.50 Net.

This small book is not a compend in the usually accepted meaning of the word. It is, rather, a brief manual covering the entire field of medicine, omitting all controversial points and all experimental evidence upon which the truths stated are based. Since the original publication of this work in 1892, it has been subjected to repeated revisions, and it has, throughout this entire period, held its position as a standard manual. This twelfth edition reveals revisions, particularly in the sections dealing with gastric abnormalities, appendicitis, gall-bladder disease, pernicious anemia, and diabetes. Some of the newer conditions, such as essential hypertension, sickle-cell anemia, rat-bite fever, and tularemia have been added. Dr. Stevens continues to use the apothecary's system in the prescriptions quoted, which detracts from the usefulness of the book, especially for students. In certain instances, his terminology is not the latest accepted, although little or no inconvenience or misunderstanding should result from this source. Its convenient size will continue its popularity with physicians for quick reference.

A TEXT-BOOK OF PATHOLOGY

By William G. MacCallum, M.D., Professor of Pathology and Bacteriology. John Hopkins University. Fourth Edition, Thoroughly Revised. Octavo Volume of 1177 Pages With 606 Original Illustrations. Philadelphia and London. W. B. Saunders Co., 1928. Cloth, \$10.00 Net.

A consideration of any pathological processes is so closely and intimately associated with that of the

physiological one upon which it is dependent that an adequate consideration of the former demands a thorough understanding of the latter. This text is an outstanding accomplishment in the correlation of these two basically important subjects. The presentation is in lecture style, attracting, as it does, the reader's attention, and carrying him, without fatigue, through pages of detail makes this book of especial value to the graduate student or practitioner. The grouping of subjects discussed is based upon either anatomical association or physiological parallel rather than "systems". This fourth revision omits but little of the former edition, but by clever re-writing, additions have been made in many sections. Disorders of the adrenal and pituitary glands as well as dietary deficiency disorders are well discussed in terms of modern discovery. The newer conceptions of tumor etiology have received critical appraisal and the new findings in nephritis sanely evaluated. Much new material has been added to the discussion of scarlet fever, thyroid and parathyroid disease, diabetes, tuberculosis, endocarditis, and the blood diseases.

The volume is accurately indexed and the numerous illustrations are well chosen. References, collected at the end of each chapter, are, for the most part, to easily accessible literature and should be found of definite advantage to the advanced student.

THROMBO-ANGITIS OBLITERANS

Clinical, Physiologic and Pathologic Studies. By George E. Brown, M.D. and Edgar V. Allen, M.D., Division of Medicine, Mayo Clinic, Collaborating in Pathology With Howard R. Mahorner, M.D., Fellow in Surgery, the Mayo Foundation. 12 Mo of 219 Pages With 62 Illustrations. Cloth, \$3.00 Net. Philadelphia and London. W. B. Saunders Company, 1928.

The authors of this monograph have collected and critically reviewed the large literature relative to this important disease. To this they have added their own observations covering a careful study of 300 cases occurring in the patients of the Mayo Clinic during 1922 to 1927 inclusive. They conclude from their study that, of the many etiologic factors advanced, none have proven adequate to explain the disease. Tobacco, racial characteristics, sex, cold and occupation are probably all contributing elements in the production of this condition, but none causative per se. "In summarizing the results of our own work and that of various other investigators, on the infectious nature of the disease, we would say that while the proof is lacking there is much evidence to indicate that an infectious or bacterial toxic substance is the etiologic factor."

A most hopeful note permeates their discussion of prognosis and treatment. They outline a medical treatment of the disease which promises restoration of function in the diseased part, and suggest surgery

only for specific complications, such as sudden thrombosis, gangrene, or intractable pain.

The discussion of this disease is most thorough, and the bibliography cited quite complete.

A SHORT HISTORY OF MEDICINE

By Charles Singer, M.A., M.D., D.Litt., Oxford, Fellow of the Royal College of Physicians of London, Lecturer on the History of Medicine in the University of London. New York, Oxford University Press, American Branch; 1928; With 142 Illustrations. Price \$3.00.

This volume presents the outstanding and epochal events in the development of medical science in non-technical language easily understood by any intelligent reader. It is compiled presumably for the lay-reader desiring a general survey of the subject. The style which Dr. Singer employs in telling his story is fascinating from the standpoint of construction, and vivid in description. It would seem that the volume would admirably meet the need of the medical student wishing to acquaint himself with the general outline of medical history, but not in possession of time sufficient to go exhaustively into the subject. Dr. Singer's connection as lecturer on the history of medicine in the University of London has given him an appreciation of the difficulties encountered by the average student with an historical study, and because of this viewpoint, he has presented the subject in a most forceful and fascinating fashion. Throughout the book are numerous well-executed illustrations which in themselves render the book most attractive.

The volume is, without doubt, one of the best histories yet presented to the public, and should be read by every physician and lay-man wishing an appreciation of the course of development of medical art and science.

AN INVESTIGATION OF LYMPHADENOMA WITH RELAPSING PYREXIA

By A. Salusbury Macnalty, M.A., M.D., Oxon., M.R.C.P. Lond. Report No. 50 on Public Health and Medical Subjects. Printed Under the Direction of Ministry of Health, London. American Agents—British Library of Information, 5 East 45th Street, New York City. Price, 45 Cents.

This report is one of the most recent of the public health reports dealing with medical subjects published by the Ministry of Health, London. It is a very complete monograph of this serious but infrequent malady, lymphadenoma with relapsing pyrexia. The author has carefully reviewed the pertinent literature and compiled an exhaustive bibliography which will materially assist the student of this condition. The disease is discussed from a historical, clinical, and pathological standpoint, with particular emphasis on differential diagnosis, prognosis, and treatment.

REGIONAL ANESTHESIA

By Gaston Labat, M.D., Clinical Professor of Surgery, University and Bellevue Hospital Medical College, New York City, Laureate of the Faculty of Sciences, University of Montpellier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia; The Mayo Foundation, University of Minnesota. With a Foreword by William J. Mayo, M.D. Second Edition, Revised. Octavo of 567 Pages with 367 Original Illustrations. Philadelphia & London. W. B. Saunders Company, 1928. Cloth \$7.50.

This volume presents in detail the technique essential for securing satisfactory results from local anesthesia. Clarity is secured by vivid, terse, descriptive language exemplified by numerous beautifully executed drawings. Proper methods are stressed; adequate instruments are described; indications and contraindications for the procedure are sharply outlined. Timely anatomical reviews precede each technical description enabling the reader to better appreciate the steps outlined in the section. Special chapters are devoted to operations on the eye, ear, nose, throat, teeth and genito-urinary organs, since operations in these particular regions are most easily accomplished by local anesthesia. A chapter is devoted to operations on the abdomen, the author taking the sensible attitude that in this field local anesthesia has definite limitations and frequently requires the conjoined use of ether to insure proper results. Spinal anesthesia is fully discussed in two of the closing chapters of the volume. Dr. W. H. Mayo aptly states, in his introduction of this work, "Regional anesthesia has come to stay". It seems then particularly fitting that every surgeon, particularly those combining minor or industrial surgery with major operative work, should familiarize himself with these newer methods. This volume is outstanding in the particular field covered.

LOBAR PNEUMONIA—A CORRELATION OF ROENTGEN-RAY FINDINGS WITH CLINICAL AND PATHOLOGICAL MANIFESTATIONS

By L. R. Sante, M.D., Associate Professor of Radiology, St. Louis University Medical School; Radiologist to the University Group of Hospitals (St. Mary's Hospital and Infirmary); Chief City Radiologist to St. Louis City Hospitals; Consultant Radiologist Koch Hospital for Tuberculosis, St. Louis Training School. Foreword by James T. Case, M.D., Battle Creek, Michigan. Paul B. Hoeber, Inc., New York, 1928.

This is a small book of 126 pages with thirty-three illustrations, nearly all of which are reproductions of x-ray films of the lungs. The book is devoted principally to (Continued on advertising page xviii)

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BOOK REVIEWS

(Continued from page 144)

marily to the roentgenological study of lobar pneumonia with reference to pathology, method of inoculation and spread of the organism, course of the disease, complications and prognosis.

In the introduction of the book, the author gives a brief classification of the four groups of pneumococci and mentions the percentage of cases of lobar pneumonia infected with the different type of organisms. He also mentions the types which are susceptible to sera therapeutics.

The chapter devoted to the differential roentgen ray diagnosis is particularly interesting to the radiologist as a definite and precise explanation is given of the spread of the disease, the structures involved, with excellent roentgenograms showing the progress of the disease and the method of resolution.

This book should be particularly interesting to internists and is a "striking example of the use of the roentgen rays as an aid in research medicine" as stated by James T. Case in the "Foreword".

T. A. B.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The next meeting of the American Association for the Study of Goiter will be held at Dayton, Ohio, March 25, 26 and 27. The association was formed a number of years ago with the primary object of bringing together each year men who will present the best that has been thought, said, and done in the study of goiter and its associated problems. It aims to establish a forum where all subjects pertaining to goiter may be presented and fully discussed. Members of state and provincial medical societies are eligible and cordially invited to participate as attending members at the Dayton meeting.

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In the Optochin Base treatment of pneumonia it is of the utmost importance to begin treatment at the earliest possible moment. Every hour of delay is to the disadvantage of the patient.

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The maximum bactericidal power of the remedy must be maintained continuously for a definite period—1 to 3 days—employing the minimum quantity of the remedy necessary for the purpose. It was found in practice that, provided Optochin Base is used, and given in doses of 4 grains every 5 hours, day and night, and further, provided the treatment is begun within twenty-four hours, or at least not later than the second day after the onset of the disease, the results are all that could be wished. The fever abates rapidly, the course of the disease is

shortened and rendered milder, and the patients experience a sensation of euphoria, while the appetite and general condition improve.

The base is used because, being practically insoluble in water, it is but gradually taken up into the blood circulation. With every dose of Optochin Base about 5 ounces of milk are given. The milk prevents the too rapid formation of the more soluble Optochin Hydrochloride by the action of the hydrochloric acid secreted and thus assists in maintaining a more uniform optimum concentration of the remedy in the blood. No other food or drink is given during the three days' treatment.

FREE BOOK FOR MEDICAL STUDENTS WHO INTEND TO VISIT HUNGARY

A guide book for physicians and medical students who intend to visit Hungary is being distributed gratis by the Cunard Line. It gives full information concerning the conditions under which members of the medical profession may continue their studies in Budapest, giving courses which may be taken up at the various clinics and universities. The book may be obtained by dropping a card to the Cunard Line, 25 Broadway, New York.

NEW AND NON-OFFICIAL REMEDIES

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E. R. Squibb & Sons:

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Thomas H. McManus, M.D.

President
Iowa State Medical Society
1928-1929

The JOURNAL

- of the

Iowa State Medical Society

VOL. XIX

DES MOINES, IOWA, APRIL, 1929

No. 4

IOWA STATE MEDICAL SOCIETY
ORGANIZED 1850

Seventy-Eighth Annual Session

DES MOINES—MAY 8, 9, 10, 1929

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PROGRAM

OPENING EXERCISES

Wednesday, May 8

8:30 a. m.

Call to Order by the President—

THOMAS U. McMANUS, M.D., Waterloo

Invocation—

REV. ARTHUR A. BROOKS, D.D., Des Moines
Pastor, Grace Methodist Church

Address of Welcome for the City—

HON. E. H. MULLOCK, Des Moines
Mayor of Des Moines

Address of Welcome for the Profession—

C. E. RUTH, M.D., Des Moines
President Polk County Medical Society

Response—

THOMAS F. SUCHOMEL, M.D., Cedar Rapids

Gavel Presentation—

MICHAEL J. KENEFICK, M.D., Algona

Section on Ophthalmology, Otology and Rhinology—

Chairman, JAMES A. DOWSING, M.D., Des Moines

Official Reporter, General Session—

MISS ADELAIDE FOLSOM, Ripon, Wisconsin

Reporter, House of Delegates—

MRS. MARIE REYES, Des Moines

Wednesday, May 8

9:00 a. m.

1. Cancer of the Breast—

WILLIAM HEARST, M.D., Cedar Falls, *twenty minutes*

Discussion opened by FRANK M. FULLER, M.D., Keokuk,
five minutes

2. Some Phases of the Cancer Problem—

WILLIAM R. JEPSON, M.D., Sioux City, *twenty minutes*

Discussion opened by CHARLES RYAN, M.D., Des Moines,
five minutes

3. Morbidity and Mortality in Relation to Public Health—

EARL S. BROWN, M.D., Topeka, Kansas, Secretary Kansas
State Board of Health

SCIENTIFIC PROGRAM

Section Chairmen and Reporters

Section on Medicine—

Chairman, JACK V. TREYNOR, M.D., Council Bluffs

Section on Surgery—

CHAIRMAN, THOMAS F. THORNTON, M.D., Waterloo

4. Medical Economics—
CHANNING G. SMITH, M.D., Granger, *twenty minutes*
Discussion opened by MARK C. JONES, M.D., Boone, *five minutes*

5. Schoolsickness—
JACK V. TREYNOR, M.D., Council Bluffs, Chairman of the Medical Section, *twenty minutes*

Wednesday, May 8

1:30 p. m.

Symposium: Kidney Infections in Childhood

6. From the Pediatric Viewpoint—
PHILLIP C. JEANS, M.D., Iowa City, *twenty minutes*
7. From the Genito-Urinary Viewpoint—
LEON D. JAY, M.D., Waverly, *twenty minutes*
8. From the Eye, Ear, Nose and Throat Viewpoint—
GORDEN F. HARKNESS, M.D., Davenport, *twenty minutes*
Discussion of paper number six opened by BENJAMIN C. HAMILTON, JR., M.D., Jefferson, *five minutes*
Discussion of paper number seven opened by CLIFFORD W. LOSH, M.D., Des Moines, *five minutes*
Discussion of paper number eight opened by ROYAL F. FRENCH, M.D., Marshalltown, *five minutes*
9. Address in Medicine: Some Observations on the Treatment of Empyema in Children—
(Lantern Demonstration)
JOSEPH BRENNEMANN, M.D., Chicago
10. Malignant Tumors of the Testicle—
ALLEN C. STARRY, M.D., Sioux City, *twenty minutes*
Discussion opened by OLIVER J. FAY, M.D., Des Moines, *five minutes*
11. Some Remarks on the Management of Diabetes—
BENJAMIN F. WOLVERTON, M.D., Cedar Rapids, *twenty minutes*
Discussion opened by CHARLES W. ELLYSON, M.D., Waterloo, *five minutes*

3:30 p. m.

Meeting—House of Delegates
Hotel Fort Des Moines

Wednesday Evening, May 8

Social Entertainment

Thursday, May 9

9:00 a. m.

12. Problems in the Control of Acute Infectious Diseases in Rural Districts of Iowa—
BERT L. EIKER, M.D., Leon, *twenty minutes*
Discussion opened by CLIFFORD D. MERCER, M.D., West Union, *five minutes*

13. Present Status of Serum Therapy in Scarlet Fever—
LEE FORREST HILL, M.D., Des Moines, *twenty minutes*
Discussion opened by JOHN C. MCKITTERICK, M.D., Burlington, *five minutes*

14. Control of Intractable Pain—
ANATOLE KOLODNY, M.D., Iowa City, *twenty minutes*
Discussion opened by JOHN HAMILTON, M.D., Cedar Rapids, *five minutes*

15. The Complications of Duodenal Ulcer—
GORDEN N. BEST, M.D., Council Bluffs, *twenty minutes*
Discussion opened by JAMES C. HILL, M.D., Newton, *five minutes*

16. Intermittent Muscular Spasms, Resembling Jacksonian Epilepsy, Complicating Recurrent Epidemic Encephalitis—
(Lantern Demonstration)
TOM B. THROCKMORTON, M.D., Des Moines, *twenty minutes*
Discussion opened by M. NELSON VOLDENG, M.D., Woodward, *five minutes*

17. Conservative Surgery—
THOMAS F. THORNTON, M.D., Waterloo, Chairman of the Surgical Section, *twenty minutes*

Thursday, May 9

1:30 p. m.

Symposium: Lesions of the Upper Abdomen

18. General Diagnosis in Some of the More Common Lesions of the Upper Abdomen—
JOHN T. STRAWN, M.D., Des Moines, *twenty minutes*
19. The Clinical Significance of X-ray Signs in the Diagnosis of Common Lesions of the Upper Abdomen—
ARTHUR W. ERSKINE, M.D., Cedar Rapids, *twenty minutes*
20. Surgical Procedures in Diseases of the Upper Abdomen—
CLARENCE M. WRAY, M.D., Iowa Falls, *twenty minutes*
Discussion of paper number eighteen opened by MILTON B. GALLOWAY, M.D., Webster City, *five minutes*
Discussion of paper number nineteen opened by THOMAS A. BURCHAM, M.D., Des Moines, *five minutes*
Discussion of paper number twenty opened by WILLIAM A. ROLFE, M.D., Waverly, *five minutes*
21. Unity and Progress in Medicine—
HENRY S. HOUGHTON, M.D., Iowa City, *twenty minutes*
Discussion opened by WALTER L. BIERRING, M.D., Des Moines, *five minutes*
22. Diathermy and Light Therapy in Eye, Ear, Nose and Throat Work—
THEODORE S. BLAKESLY, M.D., Kansas City
23. Bladder Neck Obstruction—
GERALD V. CAUGHLAN, M.D., Council Bluffs, *twenty minutes*
Discussion opened by HENRY R. SEARLE, M.D., Iowa City, *five minutes*

Thursday Evening, May 9

8:00 p. m.

24. President's Address—

THOMAS U. McMANUS, M.D., Waterloo

25. Address in Surgery: The Choice of Anesthetics in Major Surgery, with Particular Relation to the Protection of the Patient—

HUGH CABOT, M.D., Dean and Professor of Surgery, University of Michigan Medical College, Ann Arbor

Friday, May 10

9:00 a. m.

26. Constipation—

HANS HAUMEDER, M.D., New Hampton, *twenty minutes*Discussion opened by EMIL C. JUNGER, M.D., Soldier, *five minutes*

27. Symptoms of Some Rectal Conditions and Their Treatment by Ambulatory Methods—

GUY B. ANDERSON, M.D., Ackley, *twenty minutes*Discussion opened by WILLIAM W. WYATT, M.D., Webster City, *five minutes*

28. The Heart in Thyroid Disease—

JOHN W. THORNTON, M.D., Lansing, *twenty minutes*Discussion opened by MERRILL M. MYERS, M.D., Des Moines, *five minutes*

29. Osteomyelitis of the Spine—

(Lantern Demonstration)

ARTHUR STEINDLER, M.D., Iowa City, *twenty minutes*Discussion opened by PETER A. BENDIXEN, M.D., Davenport, *five minutes*

30. Report of the Transactions of the House of Delegates—

TOM B. THROCKMORTON, M.D., Secretary, Des Moines

31. Installation of the President

OPHTHALMOLOGY, OTOLOGY AND RHINO-LARYNGOLOGY

Meeting Place—Hotel Fort Des Moines

Chairman, James A. Downing, M.D., Des Moines

Wednesday, May 8

1:30 p. m.

Joint Session

Symposium: Kidney Infections in Childhood

1. From the Pediatric Viewpoint—

PHILLIP C. JEANS, M.D., Iowa City

2. From the Genito-Urinary Viewpoint—

LEON D. JAY, M.D., Waverly

3. From the Eye, Ear, Nose and Throat View-

point— GORDEN F. HARKNESS, M.D., Davenport

Discussion of paper number one opened by BENJAMIN C. HAMILTON, JR., M.D., Jefferson

Discussion of paper number two opened by CLIFFORD W. LOSH, M.D., Des Moines

Discussion of paper number three opened by ROYAL F. FRENCH, M.D., Marshalltown

Wednesday Evening

Social Entertainment

Thursday, May 9

8:00 a. m.

Hospital Clinics

9:30 a. m.

1. Chairman's Address—

JAMES A. DOWNING, M.D., Des Moines

2. Symposium on Amphyopia—

(a) Strabismus and Amphyopia—

HAROLD J. MCCOY, M.D., Des Moines

(b) Congenital Cataracts and Amphyopia—

WILLIAM F. BOILER, M.D., Iowa City

Discussion opened by FRANK W. DEAN, M.D., Council Bluffs

3. Progressive Deafness—

ROBERT M. LAPSLEY, M.D., Keokuk

Discussion opened by JESSE B. NAFTZGER, M.D., Sioux City

4. Herpetic Keratitis— GEORGE MAY, M.D., Des Moines

Discussion opened by ELMER P. WEIH, M.D., Clinton

5. Traumatized Ears—

JOHN K. VON LACKUM, M.D., Cedar Rapids

Discussion opened by CHARLES E. CHENOWETH, M.D., Mason City

6. Workmen's Compensation— HON. A. B. FUNK

Open forum

7. Traumatic Tympanic Rupture—

CHARLES E. BRODERICK, M.D., Cherokee

Discussion opened by HAL. A. CHILDS, M.D., Creston

8. Industrial Corneal Injuries—

SUMNER B. CHASE, M.D., Fort Dodge

Discussion opened by DELL E. GRAHAM, M.D., Ottumwa

9. Guest Speaker—Diathermy and Light Therapy in Eye, Ear, Nose and Throat Work—

(Joint Session)

THEODORE S. BLAKESLEY, M.D., Kansas City

MEETING PLACES

Headquarters—Hotel Fort Des Moines, Tenth and Walnut Streets
 General Meetings—Hotel Fort Des Moines, Ball Room
 House of Delegates—Hotel Fort Des Moines, Oak Room
 Eye and Ear Section—Hotel Fort Des Moines, Eleventh Floor
 Registration and Exhibits—Hotel Fort Des Moines, Mezzanine Floor
 Headquarters for Ladies—Hotel Fort Des Moines

Rules for Papers and Discussions

"No address or paper before the Society, except those of the President and the Guests, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on any subject." "All papers read before the Society shall be the property of the Society." (Excerpts from By-laws.)

Each paper should be typewritten, and deposited with the Secretary when read; if this is not done, it will not be published.

On rising to discuss a paper, the speaker will please come forward and announce his name and address plainly.

Registration

Do not fail to Register.

Please bring your membership card for presentation at Registration Desk.

HOUSE OF DELEGATES

Oak Room—Hotel Fort Des Moines

Wednesday, May 8

3:30 p. m.

Roll Call

Approval of Minutes of Friday Morning Session, 1928

Report of Secretary

Report of Treasurer

Report of Council

Report of Trustees

Report of Delegates to A. M. A.

Report of Standing Committees:

Medico-Legal—

FRANK A. ELY, Des Moines, Chairman

Scientific Work—

THOMAS U. McMANUS, Waterloo, Chairman

Public Policy and Legislation—

THOMAS A. BURCHAM, Des Moines, Chairman

Constitution and By-Laws—

VERNON L. TREYNOR, Council Bluffs, Chairman

Publication Committee—

RALPH R. SIMMONS, Des Moines, Editor

Finance—

ERNEST C. McCURE, Bussey, Chairman

Arrangements—

ROBERT L. PARKER, Des Moines, Chairman

Report of Special Committees:

Medical Library—

DAVID S. FAIRCHILD, Sr., Clinton, Chairman

Military Affairs—

DONALD MACRAE, Jr., Council Bluffs, Chairman

Hospital Committee—

WALTER L. BIERING, Des Moines, Chairman

Memorials and Communications

New Business

Election of Committee on Nominations

Thursday, May 9

8:00 a. m.

Roll Call

Reading of Minutes

Report of Officers

Report of Committees

Unfinished Business

New Business

Friday, May 10

8:00 a. m.

Roll Call

Reading of Minutes

Report of Committee on Nominations

Election of Officers

Report of Committees

Unfinished Business

New Business

Adjournment

IOWA STATE MEDICAL SOCIETY OFFICERS AND COMMITTEES 1928-1929

President.....Thomas U. McManus, Waterloo
 President-Elect.....John H. Peck, Des Moines
 First Vice-President.....Pearl E. Somers, Grinnell
 Second Vice-President.....Albert V. W. Hennessy, Council Bluffs
 Secretary.....Tom B. Throckmorton, Des Moines
 Treasurer.....Robert L. Parker, Des Moines

TRUSTEES

Term expires

Oliver J. Fay, Des Moines, Chairman.....1931
 Vernon L. Treynor, Council Bluffs.....1930
 John F. Herrick, Ottumwa.....1929

COUNCILORS

First District—George B. Crow, Burlington.....1930
 Second District—Anthony P. Donohoe, Davenport.....1932
 Third District—Fred F. Agnew, Independence.....1931
 Fourth District—Paul E. Gardner, New Hampton.....1929
 Fifth District—A. C. Conaway, Marshalltown.....1933
 Sixth District—Samuel T. Gray, Albia, Secretary.....1933
 Seventh District—Channing G. Smith, Granger, Chairman.....1929
 Eighth District—Fred A. Bowman, Leon.....1929
 Ninth District—Henry B. Jennings, Council Bluffs.....1932
 Tenth District—Watson W. Beam, Rolfe.....1931
 Eleventh District—Giles C. Moorhead, Ida Grove.....1930

DELEGATES TO A. M. A.

William Jepson, Sioux City.....	1929
Thomas F. Thornton, Waterloo.....	1929
Donald Macrae, Jr., Council Bluffs.....	1930
Bert L. Eiker, Leon.....	1930

ALTERNATE DELEGATES TO A. M. A.

Fred Moore, Des Moines.....	1929
Clyde A. Boice, Washington.....	1929
Thomas A. Burcham, Des Moines.....	1930
John F. Herrick, Ottumwa.....	1930

STANDING COMMITTEES

MEDICO-LEGAL

Frank A. Ely, Des Moines, Chairman.....	1929
George C. Albright, Iowa City.....	1930
Henry B. Jennings, Council Bluffs.....	1931

SCIENTIFIC WORK

Thomas U. McManus.....	Waterloo
Tom B. Throckmorton.....	Des Moines
Robert L. Parker.....	Des Moines

PUBLIC POLICY AND LEGISLATION

Thomas A. Burcham, Chairman.....	Des Moines
W. Eugene Wolcott.....	Des Moines
Peter A. Bendixen.....	Davenport
Thomas U. McManus, Ex-Officio.....	Waterloo
Tom B. Throckmorton, Ex-Officio.....	Des Moines

CONSTITUTION AND BY-LAWS

Vernon L. Treynor, Chairman.....	Council Bluffs
Charles B. Taylor.....	Ottumwa
Tom B. Throckmorton.....	Des Moines

PUBLICATION COMMITTEE

David S. Fairchild, Sr., Editor Emeritus.....	Clinton
Ralph R. Simmons, Editor.....	Des Moines
Tom B. Throckmorton, Secretary.....	Des Moines
Oliver J. Fay, Trustee.....	Des Moines
Vernon L. Treynor, Trustee.....	Council Bluffs
John F. Herrick, Trustee.....	Ottumwa

FINANCE

Ernest C. McClure, Chairman.....	Bussey
Daniel F. Houston.....	Burlington
Charles Elyson.....	Waterloo

ARRANGEMENTS

Robert L. Parker, Chairman.....	Des Moines
Thomas U. McManus.....	Waterloo
Tom B. Throckmorton.....	Des Moines
Fred Moore.....	Des Moines
Alva P. Stoner.....	Des Moines

SPECIAL COMMITTEES

MEDICAL LIBRARY

David S. Fairchild, Sr., Chairman.....	Clinton
Conrad R. Harken.....	Osceola
Felix A. Hennessy.....	Calmar

MILITARY AFFAIRS

Donald Macrae, Jr., Chairman.....	Council Bluffs
Harold A. Spilman.....	Ottumwa
Earl B. Bush.....	Ames

HOSPITAL COMMITTEE

Walter L. Bierring, Des Moines, Chairman.....	1929
Frank E. Sampson, Creston.....	1930
Fred M. Smith, Iowa City.....	1931

Vernon D. Blank, Managing Director,
1122 Bankers Trust Bldg., Des Moines

State Society Iowa Medical Women

Thirty-Second Annual Meeting Des Moines

Tuesday, May 7, 1929

Headquarters—Hotel Savery

Meeting Place—Hotel Savery

Morning Session

9:00 a. m.

Welcome

Appointment of Committees

President's Address—"Standards of Welfare Work in Iowa"

Annual Business Meeting

Physicians and Physical Education—

MARGARET MCKEE, Director of Physical Education in Des Moines Public Schools

Luncheon 12:15

Grace Ransom's Tea Room

Afternoon Session

2:00 p. m.

Obstetrics—With report of three cases—

CHRISTINE ERICKSON HILL, M.D., Council Bluffs

Discussion—GLADYS COOPER, M.D., Red Oak

Report on Series of Cancer Cases—

ROSE WISTEIN, M.D., Cedar Rapids

Discussion—NELLE NOBLE, M.D., Des Moines

Address—"Color Hygiene"—

ESTELLE G. NORMAN, M.D., Battle Creek Sanitarium

Unfinished Business

Dinner—Savery Hotel

Party at Home of Mae Habenicht, M.D.

OFFICERS

President..... MAE HABENICHT, M.D., Des Moines

Vice-President..... JEAN JONGEWAARO, M.D., Ames

Secretary..... ROSE BUTTERFIELD, M.D., Indianola

Treasurer..... FLORENCE JOHNSTON, M.D., Cedar Rapids

The County Medical Society*

GEO. C. ALBRIGHT, M.D., F.A.C.S., Iowa City

Inasmuch as the other officers have, as their part of our program, presented some interesting scientific studies, will it be agreeable to you if I should depart from that line of thought and bring forward some musings that have been in my mental background for some time?

Ever since I have been a member of this society, there has been a feeling, at times very much to the fore, at times in the background—that the society does not play the role in our professional lives, that it should. It has occurred to me that perhaps this was in part due to some lack of agreement as to just what the functions of a county medical society are and ought to be.

If a statement of those functions, as I see them, will be acceptable to you, and if it will lead to a free discussion, out of which shall come a little more unified understanding, I shall be most happy.

Nowhere have I found a better statement of the functions of the county medical society than in the Introduction to the Transactions of the Litchfield County Medical Society (New Haven, Connecticut), published in 1788, one hundred forty years ago. I shall not tire you with the prolonged recital of these objects verbatim, there were seven of them, but choose two or three which seem the most important.

"This society was formed on the most liberal and generous principles and was designed first to lay a foundation for that unanimity and friendship which is essential to the dignity and usefulness of the profession.

"Second—To accomplish this by meeting once every three months.

"Thirdly—To counsel freely wherever needed, without reserve."

I am glad that those men of one hundred forty years ago placed friendship first. I am glad that they deemed unanimity and friendship "essen-

tial to dignity and usefulness of our profession". He who lacks friends is a pauper, he who has them is rich indeed. Nowhere is this more true than in our profession. As we grow older we come more and more to realize that the confidence, goodwill and friendship of our fellow physicians is "beyond all price". Whenever the storm of lay criticism is voiced against us—we can face it serenely if we know that we have the confidence of our fellow physicians. Whenever the "darts and slings of outraged fortune" are hurled against us, we can face it serenely if we know that we have the good will of our fellow physicians. Whenever the hand of fate is raised against us—or affliction rests heavily upon us, what is there that so lightens the load as the loyal friendship of our fellow physicians. Conversely, no matter what our professional skill and success may be, no matter how loudly these may be chanted by our grateful and admiring patients, no true physician feels that he has been a genuine success if he does not have with it all the confidence, goodwill and friendship of his fellow physicians.

The second function, as those pioneers saw it, was "To meet * * * and counsel freely—without reserve".

The programs of a county society should be, in the large part, I feel, made up of contributions of its own members. We have tried this theory here and I leave you to judge with what result. Professional growth demands it. The young doctor must have the opportunity to place his ideas and conclusions before his fellow workers for their constructive criticism. The man who does not recognize the fact that here is the place for the beginner, lacks that charity which is the first born of unanimity and friendship. The man who views the programs of our society solely in the light of what he will be able to get out of them, will not be so useful as the man who is equally anxious to see how much he can add to them, either in the contributions he makes or in

Dr. Albright, with his enviable background of broad experience, offers in the accompanying article a frank survey of the shortcomings and possibilities of his county medical society. The problems of the Johnson County Society differ from those of your county only in detail. The basic and vital principles of organization of all county medical societies are alike. This article is reproduced without abridgment since even the most intimate of its local detail carries an important message.

THE EDITOR.

*Presented before the Johnson County Medical Society, Iowa City, October 3, 1928.

the kindly constructive criticism of the efforts of others. This is particularly true of our society. We have quite a few—we should have many more,—who are getting their first look into the field of active practice, men who are just passing out from the relationship of student to teacher, to the broader relationship of fellow physicians.

May I, for a moment, speak to these younger men, urging you for your own good, to take part in the work of the county medical society? Why should I say this? While in school, the prompting of the teaching staff and the demands of the board of health for licensure, made a fairly definite amount of study necessary. With the opening of your office, you become "the master of your fate", in very truth.

The first years of practice are the years which determine irrevocably what manner of physician you are to be. The great men of our profession are the men who have never ceased to be students. During the years when you are finding yourself in your chosen community, before the demands of your practice engross you fully, you may, and by all means should, acquire the habit of self-directed study. Professional magazines, good books, should be studied as diligently and conscientiously as you ever studied your anatomy, physiology or surgery. Make every case a text for study. Set aside a part of each day for serious study. Present the results of your studies to your fellow physicians in the county medical society. Let it be made a monthly post-graduate course, where ideas may be presented and exchanged. Clinical cases presented and discussed in a "habitually friendly" manner, will furnish material for many profitable meetings. One case well studied is more profitable than ten cases observed but casually.

This is the peril of a large practice—the ever increasing tendency to do more than one can do well, to be satisfied with a snap diagnosis which would have been repellant to you in your days of training and early practice. The real challenge to the physician is not the recognizedly difficult case, but the apparently simple case that masks another condition, easily diagnosed, if suspected. The real challenge is to keep mentally awake. To quote Dr. Wm. Osler, "The killing vice of the young doctor is intellectual laziness—and five to ten years from his license, as his practice begins to grow, may find him knowing less than he did when he started, and without fixed educational purpose in life".

To the older men in our society; may I also say a word?

You were young once, even as our youngest member is today. You have had a wealth of experience which humanity asks you to share with those who are beginning in our art. Our young men look to you for help and guidance. Will they look in vain? Will you help the young doctor to avoid the mistakes you have made, because you were inexperienced? So far as the science of medicine is concerned, you have much to give. So far as the art of medical practice is concerned, you have much to give. So far as the unanimity and friendship in the society is concerned, is not the responsibility yours? Let me quote the words of one of the world's most eminent physicians.

"The quarrels of doctors make a pretty chapter in the history of medicine * * * bickerings and jealousies mar the profession. So far as my observation goes, the fault lies with the older men. The young fellow, if handled aright, and made to feel he is welcomed and not regarded as an intruder to be shunned, is only too ready to hold out the hand of fellowship. The society comes in here as a professional cement."

What I have said thus far could be said of any county medical society. For a little while now I wish to speak of problems of our own society, those peculiar to it, and the functions which it should, in my opinion, fulfill. I ask you to listen in the same spirit in which I speak, with one and only one end in view—that of the betterment of every member of our society professionally, and the establishment and maintenance of an even better spirit in our midst. Perhaps the position with which you have honored me twice—no three times—may embolden me to speak with a little more directness than some other might wish to do. It may be that the "little wisdom" which "is a dangerous thing" is urging me on, while maturer judgment sleeps.

We are physicians—all members of a common brotherhood. But in no other society in the state do we find men who are devoted to teaching the science of medicine, rubbing elbows with the men who are so actively engaged in the practice of medicine, to which end the undergraduates are being guided. The distinction between the two classes is, in most cases, wiped out, when we gather together. Gradually the old breach that formerly separated town and gown is disappearing. I believe, you will most of you agree, only careful searching will show it to be present. Potentially, however, it is there.

Those of our members who are connected with the University, are divided, those who expect to remain teachers and those younger men who have

cast their lot with us for the time being; the younger men to whom I referred just a moment ago.

Our practicing members may also be divided into two groups, the active and the inactive. The active men, regardless of age or experience, are those men who are passing through, or who have passed through the danger period of the practice of medicine and who have come out, still students, still capable of generating or absorbing new ideas. They are still productive, and their products bear the stamp of riper years, of more mature judgment. They are the men who are ready to "counsel freely without reserve" with their colleagues, the men who are looking forward, who reach out for all opportunities for improving their stewardship.

The inactive men, again regardless of age or experience, are those men who are content that there is naught worth while for them in a group such as ours, and are apparently unwilling, or too thoughtless to contribute whatever they may be able to, to the end that the "dignity and usefulness of the profession" may be best developed. They are the men who belong—but who rarely or never attend.

With these four groups, the functions of our society becomes much more significant, much more pregnant with possibilities. Not only is this true of our ten stated programs a year, but in a vastly larger measure is it true of the other 355 days of the year.

The functions of our society are, broadly speaking, the same as those already enumerated—to cultivate a better, more cordial relationship between all its members, and to further their professional skill. With these four groups and two functions in mind, let us be specific.

No society can prosper long when one part of that society gives all, and the other part receives all. This may be an exchange of valuable ideas. It may be an exchange of services, or opportunities, which without some care and thought, the exigencies or circumstances under which the different groups work, may make unavailable to the other.

What can our faculty members give? The first service that our faculty men can render, it seems to me, is a service to the graduates with whom they work. Your membership, your regular attendance show that you regard the work of the county medical society as very worthwhile. Could you not then easily render these young men a distinct service by urging them to join with us? It would introduce them into the field of organized medicine. While here they would

profit by association with the men who are out on the firing line. With you, at your work, their association is always teacher and student. With you, here, and with us, it would be men, fellow physicians. If the year or more they spend with you as internes, could also be spent here, they would go right into their county society, where they locate, as students in the great postgraduate course of private practice and medical organization work. They should be encouraged to make some contribution to our scientific programs. Our meeting, last December, to which the internes and assistants were all invited, and at which they gave the program, was enjoyable to us and to them, and profitable to us and to them. Let them give their first paper or case report to friends. It will make them ready to take part in the program in those groups which they join after leaving here and where confidence and friendship are still to be won.

And what can our faculty members give to us who are in private practice? My boldness in speaking of these things is born of a personal knowledge of how willing you are to give if you but know that we would like to receive.

During the few years that it has been my privilege to arrange for the programs of our society, my work has been exceedingly light because I have never asked one of you to contribute to our scientific program, who has not most cordially and cheerfully acceded to that request. You have even volunteered to contribute, should the contribution be wanted.

But you are also willing to do far more if we will but avail ourselves of the opportunity, as again I know from personal experience. Unfortunately for us, however, many of our men do not know that they would be welcome to sit in your clinics, to make an occasional ward walk, to attend an occasional seminar, or to attend as often as we desire. If we do know it, we are surely neglecting an opportunity that many men, less fortunately situated, envy us. Have you not been too reticent, as a whole, to let it be known that physicians are welcome? You see, I am stating that we are so. From personal knowledge, again, may I reiterate I know that we are, for never have I visited a class room, a clinic, or a seminar, where I have not felt that I was welcome. Once let it be known I would like to come, and the courtesy of every opportunity one could desire, has been proffered. Especially do I acknowledge my deep appreciation and gratitude for many, many delightful, profitable hours spent in the basic study of all medicine, anatomy, with Dr. Prentiss.

Might it not be worth considering that the hours of clinics, ward walks, postmortems, and seminars be sent us? You would not be overcrowded by us at any time, I am sure, but even an occasional hour, for an occasional doctor, would do much to prevent that mental stagnation born of intellectual laziness, "which steals away our sharpness ere we are aware". It would be most interesting to know just how many would avail themselves of this opportunity.

Then, too, there is the occasional visitor to the University, who either addresses the students or holds a clinic. We may not know of his coming until we read of his leaving. Some, I suspect, we do not hear of even then. Dr. Cabot's visit, a few years ago, at which time he held a clinic, I believe, is a case in point. By chance, a few of us, heard Dr. Adson give a clinic for the students, I believe two years ago, which I felt was better than his address to the guests of the alumni clinic.

And now what may we, who are in practice, be able to give in return? Our contribution must be both direct and indirect. The students who pass out from under your tutelage, are, as soon as they have secured their licenses, in the eyes of the law, and the public, ready for the practice of medicine. Your interest in them has, in a certain degree abated. But just in the measure that they follow the precepts you have tried through the four or five years, to instill into their minds and moral fibre, is your work as teachers successful. Upon you rests the heavy obligation—not only to teach the student the science you would have him learn—but also to teach him that vastly harder, because so much more intangible thing, the living of the life of a true physician.

Any medical school must stand squarely behind its product. If a graduate of Iowa becomes a brilliant surgeon or internist, you are rightly proud of him and are justified in assuming that some of the credit for his success is due to his training while under your care. "The law allows it, and the court awards it." Conversely, if a graduate goes out from here, whose mental and moral equipment are such that he does not do honor to the profession to which he belongs, then you, in turn, cannot escape some share in the opprobrium he brings upon the profession.

But even further, if he is founded in the science of medicine, if no question of his integrity could ever be raised, yet he may fail, and his failure in turn reflects on the institution whose diploma he carries. His failure is not due to lack of gifts, but from a lack of knowledge of how to use these gifts.

His training takes place under surroundings and conditions very different from those under which he must practice his profession. His training is under conditions which are, from the viewpoint of diagnosis and treatment of disease, ideal. In the hospital, every facility for making the most exhaustive tests, is at hand. In certain cases, procedure such as x-rays, gastric analyses, bloodchemistry, are done for him, I believe. Moreover he is able to take a detached, impersonal viewpoint, thereby making decisions easier. His sole concern is to arrive at the correct diagnosis and to be able to defend that diagnosis. Theoretically he directs the treatment—practically he only observes what the physician in charge prescribes. The question of pleasing the patient, of "ministering to his soul, while treating his body", need never enter in. Patients are assigned to him—and he is responsible for results, not to the patient, but to the head of the department. Habits of courtesy, kindness and sympathy may be encouraged by his superiors, but whether they be exercised or not makes no difference in the number of patients who are assigned. To him, too frequently, patients are merely so many cases. To the patient—he is only a student or an interne. The problem of getting the patient to follow the course of treatment outlined is never a problem for the interne or student. If he fail—all that is necessary is to refer the matter to the head of the department.

Many times the expense of the treatment to the patient, under the system here, never need be discussed or considered with the patient—so that side of practice is not met. Further, the question of fixing and collecting a fee for his services is never considered.

In brief, the student or interne is well prepared from the scientific viewpoint—but from the standpoint of the actual conditions he will have to meet in practicing that science, he is often wholly unprepared—often as innocent as a new born babe.

Even though he may have had considerable dispensary experience, conditions are quite different from private practice. Many dispensary cases are seen but once—often to the relief of the physician. Treatment is often prescribed in the, "Oh well, I'll never see him again", spirit. In private practice, he will be quite concerned that he shall see them again. If he can, while learning the new human side of his art, while making his adjustment to new surroundings, hold fast to the scientific ideals he has so laboriously acquired, he will be in a position to reflect credit on his alma mater.

It is here then, that it would seem, we who are in practice might be able to give some small service to you who teach. It is true, I believe, that a fair percentage of those who teach have never been in private practice, and hence have little first hand knowledge of its difficulties—and its joys—let me add. From the years of experience we have had, might there not be some lesson we have learned, at a rather expensive price, which we might teach those who are to go out into private practice—saving them the humility and pain of some of the mistakes we have made—and that they will make, giving to them a direct service, that indirectly is a service to you who teach?

The newly located M. D., with his new equipment, is all set, ready for business. His only want now is patients. With starchy white coat and stiff upper lip, he awaits the coming of his first patient. His first patient may be the making or breaking of him—for people will talk. And not only does he have to examine and diagnose, but now he has to make a charge and to collect it—if he is to live. At last the telephone rings. "Is that you Doc?" "Yes, this is Dr. Green." "Come out and see my boy—he's sick." After learning where to come, he climbs in his shiny new coupe and goes out. He finds the young man doubled up on the couch, with pain in his abdomen. Visions of an acute appendix or a volvulus flash into his mind, but very coolly and professionally he gets out his pad and starts taking a history. That is the way he did in the hospital. After an unsuccessful attempt to get any satisfactory social, family, or past medical history, or even the present illness, he finally decides to examine. The boy resists any attempts to undress him. The father says he won't let the bad doctor hurt his boy. The mother cries and asks if he thinks the child will get well. "Oh yes, but I'm afraid, (mark you) he's going to have an operation, he's pretty bad." A fresh trial—more yells and Dr. Green is about ready to send the boy to the place of torment. Finally the grandmother comes into the scene and says—"You know, Doctor, I think he's got cholera morbus from eating them gooseberries." Shall Dr. Green make a strategic retreat or shall he stick to his guns?

Added then to the patient and his woes, he has the father, mother, perhaps two or three other crying children, grandmother—and all this without his "surgical chief" to consult. The picture is exaggerated? Recall if you will, some of you, your first case, seen in private practice. Had I not already wearied you, I could cite several examples to amplify my statement.

If some arrangement might then be made whereby your graduates and even undergraduates might become acquainted with the emergencies, vicissitudes and pitfalls of private practice, by watching us at our daily work, would it not be worthwhile? Perhaps they could well profit by our mistakes. Of course, I am having in mind particularly the man who is going into general practice. He is the man who must have the greatest ingenuity, the best adaptability, the highest degree of resourcefulness, judgment and decision. The problems of the general practitioner is the summation of the problems of all the specialists. He is internist, surgeon, obstetrician, dermatologist, ophthalmologist, and otolaryngologist, in turn. He must be prepared to meet emergencies in any of these fields.

But even if the young doctor is to specialize—in surgery, obstetrics or the head specialties, private practice will place him in situations which cannot be duplicated in any hospital service. How well does the average young doctor know how to deliver the expectant mother in the private home, city or country, alone except for some member of the family perhaps? How well prepared is the young surgeon to do or help do an acute appendectomy—one that has ruptured perhaps, in a farm home, by the light of a kerosene lamp? How well does the young ophthalmologist know how to care for an acute gonorrheal conjunctivitis—in the home—of the poorer type? How well trained is your otologist to do a mastoid in a home quarantined for scarlet fever? Am I wrong in believing that one yardstick by which our men are measured is their ability to cope with an unusual or entirely new situation?

Further than the purely scientific side of our profession, we who are in private practice, must study carefully that side of practice, which for want of a better term, let us call, the psychologic and economic side. To the beginner this is indeed important. Patients will come for many reasons—they will remain with you for one reason—you, yourself. Do not misunderstand. People of today recognize professional ability and many times may employ an able physician, whom they may personally dislike, if his ability be outstanding. But it is true that many a professionally inferior doctor has a very large, lucrative practice, simply because he knows the human side of his patients. The art of handling private patients can only be learned by practice. Much help, however, can be gained by observation, and hospital training affords but little opportunity for this. By association with men who are doing private practice, the young doctor might learn much of the art of handling sick people and their relatives and

friends. The value of kindness, promptness in decision, firmness, and, above all, I believe, sincerity, cannot be overestimated. All these might be a little better learned by association with the men who are in private practice, where the results are perhaps a little more evident than in hospital or dispensary work. If we who are in private practice, might in this way serve directly those of our members who are here for a short time, and indirectly, those of you who teach—it would seem that we might, in some slight measure, repay you for the service you so freely render us.

It has been a matter of considerable interest to see the trend of recent years toward the old preceptor system. I believe it very much worthwhile. If, in our society here, a beginning could be made, and from here extended, I believe all would be doing something of mutual helpfulness to each other. The men in practice would profit by their association with the young men, fresh from school. The young men would profit by their association with the men who are "bearing the heat and burden of the day", who must modify the theory often to meet the actual practice. Our faculty men would profit by more frequent first-hand glimpses of the field in which they are trying to fit young men to labor. Not only would we all "counsel freely together, without reserve", but on these "broad and generous principles lay a foundation for that unanimity and friendship so essential to the dignity and welfare of our profession".

THE DR. SOFIE A. NORDHOFF JUNG CANCER PRIZE

The Dr. Sofie A. Nordhoff Jung Cancer Prize for the best work in the last years with regard to cancer investigation has been unanimously awarded by the Commission selected for this purpose to Professor Dr. Katsusaburo Yamagiwa, the merited pathologist of the University of Tokyo.

Professor Yamagiwa and his cooperators have found and developed the technic of creating nearly absolutely sure cancer experimentally on animals by tarring their skin and by making injections of tar in the breast. The extensive literature, concerning the experimental cancer, is based on these results of Professor Yamagiwa. More than this, Professor Yamagiwa has made most ingenious research work on the origin of tumor cells and has given very important information concerning the method to advance and check the growth of tumor cells. The commission was composed of Professors Borst, Doderlein, v. Romberg and Sauerbruch.

NEUROLOGICAL STUDIES OF SOME EDUCATIONAL DEVIATES FROM IOWA SCHOOLS*

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The elementary studies taught in the first years of school are so simple a task for the brighter children that we are wont to consider that any child with an adequate mind even though he may belong to the dull majority should be able to encompass them. In other words we feel that any child who is not grossly defective should be able to learn simple reading, writing and spelling. In general this is true but like all other generalities it has its exceptions and these exceptions prove to be of unusual interest. The educational deviate is that child who though of average general intelligence yet cannot learn in certain restricted fields such as reading or writing or spelling under the ordinary methods of teaching. That this is a deviation and not a defect is shown by the fact that such children often respond very quickly to methods adapted to their particular learning needs.

As I have elsewhere pointed out¹ early academic education consists largely in adding the visual element to an auditory training that is already well under way. Before a child enters school he has already stored by auditory implantation the meaning of many words and has learned to use them as a guide to speech but he has not as yet learned to build the association between a printed symbol (letter) and a sound or between a sequence of such symbols (word) and the corresponding sequence of sounds which constitutes the art of reading. This requires the conditioning of a new set of reflexes between the visual and auditory spheres—or the building of associations if one prefers—and this process can be shown to occur exclusively at the third or associative level of cerebral elaboration. Children who have the greatest difficulty in learning to read often have good visual control of their hands and can often make excellent use of pictorial material. This renders it obvious that their reading disability is not the result of a visual defect in the ordinary sense and further because of their use of pictures we can say that there is no abnormality in the function of the second (objective) level of cerebral elaboration. Thus the reading disability may be definitely localized as

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1. Amer. Neurol. Assoc., Washington, D. C., May 1, 1928. Arch. Neurol. and Psych. March, 1929.

a defect in the building of association between the visual and auditory spheres at the third functional level and hence is to be regarded as a problem in which an understanding of the neurological background is of great importance.

In January, 1925, with several members of the staff of the Iowa State Psychopathic Hospital I held a clinic in Jefferson, Greene county, Iowa,² as an experiment in the extension of a mental outpatient service. To that clinic were referred 125 school children who were in some degree problems of various types in the eyes of their teachers. One of these was an extreme case of reading disability or congenital wordblindness and thirteen others seemed to me to exhibit something of the same sort of symptoms as did this outstanding case. cursory observations of this group were made in the field and the extreme case was taken to Iowa City for more careful investigation at the Psychopathic Hospital and on the basis of these studies I³ offered a tentative explanation of the reading disability interpreted by our knowledge of cerebral physiology and also outlined methods for trial in retraining. To enable further study of this problem and to put the training methods to a test support was asked from the Rockefeller Foundation and a grant was received which enabled two years of intensive work with a specially appointed research staff. The results of this extended work are naturally too voluminous to be recorded here but it will suffice to say that my earlier views concerning the disability were amply supported and enough training experiments were carried out to warrant considerable optimism concerning treatment.

In normal children there is usually considerable difficulty in fixing the association of those letters which have two or more sounds such as the s and k sounds of c, the hard and soft g and the varying sounds of the vowels. This will be readily understood when we recall that one of the fundamental rules of the conditioning of reflexes is constancy of presentation between the stimuli to be associated. Where a variable is present the association is more slowly acquired and less fixed. In the reading disability cases such loose linkage between the symbol and its sound particularly in the earlier years in school is very apparent. An explanation of this seems to be forthcoming in the confusion which exists in such cases between reversible symbols such as b and d

and p and q. In one of my more recent cases b and d are quite interchangeable so that baby, bady, daby and dady all spell baby for him. This tendency to confusion is of course quite obvious where substitutions such as d for b are made but it is also highly probable that a comparable confusion between the correct form and its mirrored image exists with other letters but is not so readily revealed. This confusion is further complicated by a second factor which is a tendency to read in the sinistrad direction. This exhibits itself in confusion between pallindromic words like *was* and *saw*, *on* and *no*, *not* and *ton*, etc., and also in a tendency to reverse paired letters within a word as gary for gray, tagret for target, etc. Occasionally one syllable is reversed, as in tarnish, read as tarshin or the major part of a word may be turned around as when a boy reads tomorrow as tworrom. These two errors, that of confusion between antitropic images and insecurity in direction of progress are considered to be the fundamental obstacles to learning to read in the disability cases. The resulting lack of facile association between letter and sound and in building sequences of sounds from grouped letters gives rise to a wide variety of other errors—vowel errors, consonant errors, omissions, additions, repetitions, etc., but all of these, I consider to be by-products of the two cardinal ones.

We are thus faced with the problem of explaining why b and d should be confused by some children more persistently than others and why some should tend to read to the left. The restriction of the disability to the third level of cerebral elaboration considerably simplifies this problem for us. In both the lowest level which gives us external awareness of a sensation (as contrasted to a mnemonic image) and the second level which serves for objective imagery (cf. use of pictorial material as quoted above) the two hemispheres of the brain operate together and it is only at the third or associative level that a striking difference is found between the right and left hemispheres. Destruction at this level in the leading or dominant hemisphere will result in marked functional loss such as aphasia, agraphia, alexia, etc., which exactly similar destruction in the same area of the non-dominant hemisphere gives no clinical result. These facts clearly indicate that for these associative functions the sensory record in only one hemisphere is required and by inference that the record in its mate is elided or inoperative and our explanation of the confusion which exists in these children between reversible symbols is that the image in the non-dominant hemisphere has not been properly elided

2. Lyday, June F. The Greene County Mental Clinic. *Mental Hygiene*, 10:759 (Oct.), 1926.

3. Orton, Samuel T. "Wordblindness" in School Children. *Archives of Neurology and Psychiatry*, 14:581 (Nov.), 1925.

and hence operates to produce confusion with its opposite which is recorded in the other hemisphere. Further evidence in support of this view is the fairly frequent spontaneous production of mirror writing by these children. Whether or not this factor is the same as that which determines sinistral progress or whether both may exist independently and produce the most severe grades of disability only when they coexist cannot be answered as yet.

This explanation of the reading defect as a failure to establish complete unilateral cerebral dominance has naturally called attention to other possible expressions of such a condition such as developmental apraxia, congenital aphasia, stuttering and defects of spelling and writing. In one of my Iowa cases a twelve year old school girl had led her class in spelling in Texas but on moving to Iowa was failing in spelling. The explanation of this apparent paradox lay in the fact that in Texas her spelling tests were all given orally while in Iowa she was required to write her spelling lessons and apparently in her particular case the interplay between the visual and auditory was facile in the control of speech but not as a pattern for writing. Again in a case which I have recently seen in Massachusetts a boy read for me two pages of fairly difficult text with only three minor errors yet on attempting to spell selected words from the same text he made twenty-five serious errors some of which were of quite a bizarre type such as *qukey* for quickly and *trunth* for through. Obviously here again the visual records while adequate as a path of intake were not freely enough available to serve as a guide to spelling and in this particular case there was also a marked lack of visually acquired words carried over into speech.

I think we may assume on a priori grounds that a free interplay between the visual and auditory memories is essential for the acquisition of reading since the child learns words by ear first and on entering school he merely acquires the means of arousing these verbal memories by way of visual symbols. He knows *cat* as a word sound long before he knows *c-a-t* as its visual counterpart. Again in spelling it is obvious that our ability to recall the silent letters in many words is a function of visual memory. One frequently sees this put to use by insecure spellers who must write out a word and "see how it looks" to be sure of its spelling. Other evidences of lack of a free interplay between these two all important functions is readily observed in both writing and speech defects but we cannot assume that these children, merely because they differ from the

usual, are either less intelligent or less educable. They form the group to which I have applied the term educational deviates to denote those who vary from the standard and who therefore require special methods of training. That this variation is not related to mental defect in the case of the reading disability is abundantly demonstrated by our findings⁴ in 175 cases from the Iowa schools in which were represented all levels of intelligence quotients even as measured by the Stanford-Binet tests which I consider to give a quite inadequate estimate of intelligence in children suffering from these special handicaps.

One of the interesting phases of this work is yet to be reported.⁵ This has to do with the effects on the personality of the child which accrue from an unrecognized handicap. Obviously when a bright child looks at *was* and miscalls it *saw* the teacher or parent is apt to interpret the error as a result of lack of effort or inattention. Later as he falls progressively behind his classmates in reading he is usually exposed to well meant but misunderstanding pressure by both parents and teacher and also to the characteristically heartless raillery of other children. Several psychiatric reaction patterns to this pressure have been observed but perhaps the most illuminative fact is the change of attitude which almost always follows when such a child is told that there probably is a real reason for his difficulty and that he is not to be regarded merely as "lazy" or as a "dumb-bell".

In my first study of these reading cases in Greene county (loc. cit.) I was² impressed with the large number encountered. Our further studies, however, have shown that that group was not exceptional. In round numbers our findings in Iowa indicate that approximately 10 per cent of all children who are referred to a clinic by their teachers because of poor school work have a varying degree of this handicap and further that the disability exists in sufficient degree to determine a definite retardation in school progress in at least 2 per cent of the total school population in every community which our Mobile Clinic visited. In one county this number was more than doubled and our interest was naturally drawn to the educational factors which might account for this. The county with the higher number of cases was one in which the "sight method" of teaching reading was used exclusively at first and theoretical considerations⁶ lead us to believe that this pedagogical procedure is

4. Monroe, Marion. *Diagnosis and Treatment of the Reading Disability*. Genetic Psychology Monographs. Oct., 1928.

5. Orton & Sprague. *Some Psychiatric Observations in Strophosymbolia*. To appear later.

in large part responsible for the greater number here.

A number of retraining experiments were instituted at the Psychopathic Hospital and in various communities in Iowa. The methods employed were adopted with a view to the neurological concepts involved and the results give excellent promise that the disability can be overcome by special instruction. These methods as far as they apply to simple uncomplicated reading retardation are discussed in some detail in one of our reports.⁷ In most instances however one of the most important features of retraining is gaining the confidence and spontaneous interest of the child and a thorough study of the attitudes and defenses which have been engendered by his difficulties is often of as great value as the actual technical retraining. In cases of retarded speech and developmental apraxia (extreme clumsiness) the problem of cerebral dominance is the cardinal issue and such children also give promise of great improvement under properly controlled special training. Not infrequently the question of native handedness and the effects of mistraining of a naturally left-handed child are matters of highest import here. In one such case which I have seen since leaving Iowa a boy of eleven had spent five years of rather unproductive work in an excellent private school. He read with ease and considerable rapidity and was spontaneously interested in reading as an acquisitive method. His speech, spelling and writing, however, were all on an extremely poor plane and his efforts to express himself were accompanied by an increasingly severe "motor overflow" which resulted in a condition of exaggerated fidgets and a very apparent heightened nervous tension. Special tests revealed that his best motor facility lay unquestionably in his left hand although he had up until this time been trained exclusively with the right. A shift to the left with other special means of retraining was recommended and after only eight weeks of intensive work along these lines he shows more improvement in handwriting than he had in the five years of previous training. He is also gaining rapidly in speech, his spelling is improving and he is under much less nervous tension when attempting to talk.

As a whole these studies which were in very large part carried out on Iowa school children have opened the way to a field of study of really absorbing interest and I think to one of immediate practical importance.

6. Orton, Samuel T. *The Sight Method of Teaching Reading as a Source of Reading Disability.* Jour. Educ. Psychol. Feb., 1929.

7. Monroe, Marion. (Loc. cit.)

SIMPLIFICATION OF OBSTETRICAL CARE*

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In spite of the fact that approximately 85 per cent of all deliveries in this country are conducted in the home, it is unusual to find obstetrical technic or practice discussed except from the point of view of the hospital patient. There can be no doubt but that the innumerable refinements of procedure, which have been developed in this way, have had a considerable effect in reducing the mortality and morbidity incident to child-bearing, but in the midst of these developments little attention has been paid to simplifying the procedures so that the general principles involved may be made available to those physicians without hospital facilities. Granted that the precautions commonly adopted in the larger maternity clinics are appreciably valuable, it is evident that the usually followed technic is too complicated for use in the home. If, on the other hand, the non-essentials could be stripped from this technic, it might be expected that it could be reduced to a degree of simplicity which could at least be approximated very closely. With this thought in mind, series of clinical experiments have been conducted during the last several years, in which the details of one procedure after another have been questioned in an effort to evaluate them as essential or non-essential. Obviously, in this attempt we are scaling hospital technic downward, but it is yet to be learned whether we are also improving the character of the technic used outside the hospital. It is believed that greater simplicity in the one will eventually lead to raising the standards in the other.

PRE-NATAL CARE

There can be no reasonable doubt about the value of routine pre-natal supervision, and, while it frequently can not be insisted upon, it should be encouraged, and, what is more, it should be taken seriously by the physician, since otherwise the patient soon comes to feel that she is wasting her time. An early general examination with special attention to the heart, lungs, and thyroid gland, with urine examination and blood pressure readings, and with careful pelvic palpation and mensuration, and combined with the withdrawal of blood for a Wassermann test, and a search for possible foci of infection, will repay the time spent. Certain conditions of serious moment will be discovered occasionally, the treatment of

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which will materially reduce the risk involved to the mother or the child. But even if everything is found to be normal, the patient will appreciate knowing that fact, since it assures her of a probable satisfactory outcome of her experience. At subsequent visits, attention should be directed to an examination of the urine, and to a blood-pressure reading, along with a determination of the satisfactory progress of the pregnancy. Routine weighing of the patient is advisable, since a sudden marked increase in weight means at least a beginning edema, and serves as a warning to watch for the appearance of toxemia. General advice is given as indicated, and one may answer any questions the patient propounds. There is an old adage that to be forewarned is to be forearmed, and nowhere in medicine is that more true than in obstetrical work.

Complications in ante-partum care, except those concerned with the treatment of actual disease, can hardly be supported. Prenatal care of the breasts and nipples, as so frequently advocated, is in our experience so devoid of actual results that we no longer give such instructions. Corsets are recommended only when there is reason to believe that their employment will make the patient more comfortable, especially when there is a backache of sacro-iliac origin, or when the abdominal muscles are widely separated and the abdomen pendulous. Generally speaking, no detailed diet is prescribed, but the patient is told to eat plenty of milk, fruit, and vegetables, with the idea that such a simple regime is nutritionally correct, and, moreover, affords the best protection against the development of the toxemias of late pregnancy. Attempts to limit the size of the baby by giving the mother a reduced diet are no longer made, since it is coming to be believed that the birth-weight of a child is dependent almost entirely upon other factors.

THE CONDUCT OF LABOR

It is in the conduct of labor, more especially, that complication has been encouraged, as might be expected in view of the fact that this is the period of greatest danger. Infection must be avoided if possible and the most elaborate technics have been devised to effect and preserve sterility. We will all agree, I am sure, that a sterile field is essential, for puerperal infection is usually brought about by the introduction of pathogenic organisms into the birth-canal from without. Some of us may believe in autoinfection but will still agree that few severe infections can have such an origin. The time-honored preparation of the patient for delivery includes shaving the

pubic region, thorough scrubbing of the field of operation with soap and water, followed by the application of an antiseptic, and the frequent irrigation of the field with a sterile solution. This entails considerable effort and is, I believe, needlessly complicated if not actually harmful. Such continued douching may well wash organisms into the vagina from without and thus lead to at least minor grades of infection. For several years now it has been our custom to use an entirely dry technic similar to that in use in many surgical clinics for abdominal preparation. The pubic hairs are clipped with clippers or scissors when the patient goes into labor, and the prospective field of operation is painted or sprayed with a 2 per cent or 4 per cent solution of mercuriochrome. Iodine was used earlier but was discarded because of the fact that it causes some burning, which is undesirable when the patient is unanesthetized. Later, when delivery is imminent, a second application of the same solution is made and the sterile drapings applied. We still use a perineal sheet with sewed-in leggings because of its instructional value, but are of the opinion that, if the patient is well-behaved and the doctor has an aseptic conscience, a sterile towel over the lower abdomen will suffice. During the delivery, following surgical precedent, dry gauze or cotton sponges and dry towels are used to keep the field dry and to protect the gloved hand, no solution basins being in evidence. It is believed that such a technic is at least as satisfactory as the other and, as you can see, it is much simpler.

Other phases of the conduct of labor have also been considered. Rectal examination has almost replaced vaginal exploration, because it can be done more quickly and more safely, and is usually reliable. A certain amount of experience is necessary before one can be sure of the finer points of diagnosis, but for following the descent of the presenting part and for estimating the degree of dilatation it is unusually reliable. When the cervix is very thin, it is sometimes difficult to feel, and for that reason operative delivery is never decided upon until a vaginal examination has confirmed the rectal findings.

The principle of the "morphine rest" is frequently employed in long, difficult labors and can be recommended. As a rule, the opiate (morphine or pantopon) is combined with scopolamine as in the original "twilight sleep" technic, but the drugs are not pushed to the stage of producing an amnesia. One-sixth grain of morphine, or its equivalent in one of the other drugs, plus 1/200 grain of scopolamine, followed in

forty-five minutes with another similar dose of scopolamine alone usually insures a few hours rest for the patient. We plan never to give morphine within two hours of the actual delivery, for fear of its effect in preventing satisfactory respirations in the new-born. Inhalation analgesia is begun during the second stage and is deepened to anesthesia during the actual delivery.

Operative delivery is resorted to only in the presence of a definite indication, since it is believed that the interests of the mother and the child are best served by such a course.

Interference on the basis of so-called fetal distress is no longer considered except in the presence of a demonstrable abnormality such as prolapsed cord, since it is considered that the usually designated signs of such distress are entirely unreliable, and since further compression of the head of a fetus which is already asphyxiated would seem to be the worst possible treatment, and a forceps application can not be made without some compression. Episiotomy is frequently resorted to, when it seems that a deep laceration of the perineum is imminent. The incision is not made with the idea that such a wound heals more readily than a laceration, but solely for the purpose of directing the break away from the rectum. All lacerations and incisions are repaired immediately using absorbable sutures, and attempting exact approximation of the various structures.

Recently, considerable attention has been paid to the secondary repair of old perineal lacerations at the time of delivery. Even when no new tear has appeared, a small triangular denudation is made and the perineal body built in layers, keeping in mind that the perineum will involute during the puerperium and making due allowance for this fact. Bleeding is rarely of any moment and healing by first intention is the rule. The convalescence is not prolonged and there has been in many instances a gratifying relief of the symptoms referable to the old relaxation. In some eight or ten patients old complete lacerations have been thus attacked with uniformly good functional results. The rectal mucosa is sutured if necessary, the sphincter ends are brought together, and then a strong perineal body is built up. It may be contended that these procedures really complicate the care of the patient rather than simplify it, but since they frequently remove the necessity for future operative work, perhaps their inclusion may be excused.

During the placental stage, insistence is placed upon non-interference with the normal uterine contractions, which lead to an uncomplicated and

physiological separation of the placenta. Massaging the uterus during this interval frequently leads to abnormal contractions with defective separation of the after-birth and its danger of postpartum hemorrhage. We have tried the administration of pituitary extract immediately at the end of the second stage, but have been unable to confirm certain reports of its usefulness. There have been no untoward results, but we could not determine that the bleeding was diminished nor that the time of separation was reduced. Both pituitary extract and ergot may be given after the birth of the placenta as a protection against relaxation of the uterus, but their use is not routine.

POST-PARTUM CARE

During the puerperium, we no longer resort to the frequent cleansings of the perineal region with antiseptic solutions as is usually recommended. Nearly fifteen years ago, this procedure was abandoned as being useless and perhaps harmful. As a substitute, the region is cleansed once or twice a day with plain warm tap water and soap, and a wash cloth. This effects a reasonable degree of personal cleanliness and does not subject the bruised and frequently lacerated tissues to as much additional trauma as the older routine, which prescribes perineal care at least every four hours, and after each urination and defecation. In some clinics even perineal pads for the absorption of the lochia have been entirely dispensed with, and the discharge is collected upon absorbent pads placed under the patients' buttocks.

Unless there is some real reason for another course, and they are rare, the delivered patients are given full diets from the time of delivery and supplementary between-meal feedings are also begun. It is argued that the average puerperal woman is essentially normal and that she has need of real food, which makes it unwise to restrict the diet, as is so frequently done. There is no reason why we should look upon the normal puerpera as ill, for the process is quite physiological, and the greatest need is that she be made to regain her strength in the shortest possible time. During the whole lactation period attention should be paid to dietary details, and especially an abundant supply of vitamin B must be provided, for it is quite certainly related to the secretion of milk. Fresh vegetables and fruits will supply this principle in large quantities.

Violent catharsis has been entirely abandoned for the normal patient after delivery. No attempt is made to secure a bowel movement for from two to four days, when a plain soap-suds

enema is given. One ounce of mineral oil is given daily and in many cases nothing else in the way of cathartics is required. It is felt that especially when a repair has been done, delayed defecation tends to promote healing of the wound, and also reduces to a minimum the chance for infection with the colon bacillus. Post-partum elevations of temperature are never explained on the basis of constipation, since it is our belief that this condition does not cause fever.

Post-partum care of the breasts and nipples is reduced almost to the vanishing point. The nipples are not bathed before and after nursings as is usually advised, since we never could be convinced that the usual technic of cleansing with boric acid solution can possibly be of any benefit. Between nursings the nipples are protected with a square of sterile gauze held in place by adhesive plaster. Breast binders are employed only when large pendulous breasts make them advisable as a supportive measure.

Except in patients with very extensive tears or with other complications that contraindicate such procedures, certain exercises are insisted upon daily while the patient is in bed. Within the first twenty-four hours head-raising is begun and other exercises rapidly added. Movement and turning in bed are encouraged rather than discouraged. Especial attention is directed to exercises affecting the abdominal and leg muscles, and after the first week the assumption of the knee-chest position for a few minutes becomes a part of the routine. The exercises are directed by the nurse and are omitted only on definite order. Patients generally enjoy the exercises and many of the multiparas insist that they help them regain their strength more quickly, so that they feel much stronger when the time comes for getting up. The routine is continued until the patient is discharged and it is always suggested that it is advisable to persist for some weeks after the return home.

I have attempted to outline rather briefly the obstetrical technic which we have adopted as standard. So many of the complicated features of the old routine have been eliminated as unnecessary that we believe that with slight modifications it may be adapted to use in the home, giving the physician without hospital facilities the chance to follow a regular clinic routine without an excess of equipment. Moreover, it can be recommended for hospital practice, where it has the advantage of reducing the nursing procedures to a very low point.

Discussion

Dr. Floyd W. Rice, Des Moines—It seems to me this is one of the most important papers we have had in the entire meeting if statistics prove anything. In 1921, in one of the largest cities of the country, deaths of mothers in confinement headed the list. In 1922-3-4 this cause held second place, and in 1925 it was in third place. In this country the infant mortality in childbirth is greater than that from any other cause. So we should try to improve our methods in obstetrics. About 85 per cent of the mothers dying in childbirth, die from three causes: Toxemia, hemorrhage and infection. The figures are about as follows: Infection, 42 per cent; toxemia, 24 per cent; hemorrhage, 22 per cent; heart disease, lung trouble, appendicitis, etc., 15 per cent. One trouble is we all feel that childbirth is a normal process. We do not realize that every case is essentially pathological if we do not take proper care of it. We also, I believe, realize that our accidents occur in unwatched cases. That is where our bad results come from. Many times it is without doubt the fault of the patient instead of the doctor. They do not notify the doctor or come early to the office. I was glad to hear Dr. Plass advocate a simplified technic which is easy for us to follow. The patient should be seen early and regularly, at least twice a month, and we should remember that in case of toxemia an increased blood-pressure will show the presence of toxemia sometimes weeks before the albumin in the urine gives evidence of its presence. As to infection, if we are just a little more careful and realize that an obstetrical case is an operable case and that we should not use instruments bare-handed any more than we would take out an appendix bare-handed, we will in many cases be able to prevent the development of infection. The reason we do not follow out the technic advocated by the essayist is that it is so simple. We live in an age of radicalism and want to do something spectacular. The kind of care that has been recommended here is simple routine, seeing our patients often and taking care of them according to the indications. The paper is a plea for reformation of our methods in these cases with the caution not to be careless. America has too many mothers dying of obstetrics. In many European countries the percentage of loss of mothers and babies is lower than in the United States. To lower our mortality rate in these cases is not a matter of improving Caesarean section or lessening the complications of heart disease, lung trouble and appendicitis which make up the 15 per cent; it is the matter of seeing our patients every two weeks, watching the diet, blood-pressure and urine, in that way eliminating at least 15,000 deaths in this country each year from confinement.

Dr. Frank M. Fuller, Keokuk—We are all the time hearing statistics in regard to deaths in childbirth, and I wonder where these statistics come from. Most of us who live in small communities know when a woman dies in childbirth. I do not know

whether I practice in a community where there is a higher standard in the practice of obstetrics than in any other, yet I can see that, there, the death rate from childbirth must be, according to the statistics, extremely low. I do not question possibly the records of deaths of mothers in other states, as in Montana or New York, but I do wonder where the statistics come from, for the reflection is on the medical practitioner. Before these statistics are put out they ought to be carefully scrutinized by physicians. I know that at one time a lay woman in charge of one of the departments was skeptical as to the records we had of deaths from this cause. I would ask Dr. Plass in closing to say something about the oil and ether instillation anesthesia, as I would like to have his opinion in regard to it and also what experience he may have had with the method.

Dr. William E. Brown, Cedar Rapids—This paper, coming from an authority and the head of a department in a great university, is quite pleasing because of its sense and logic. What he has said about care of the nipples is quite enlightening not only to the laity, but even to the doctors. The care of the nipples prenatal, is ill-advised because any manipulation of them must be detrimental. As to diet, unless there be a question of special diet in a given case, then any change in food would I am sure seem ridiculous to any of us who have seen obstetrics practiced in the far eastern countries where healthy children are produced although the diet is restricted in variety. So the question of diet does not apply unless there be a special need in certain cases. Another exploded theory to which we might call attention is the weight of the baby due to diet of the mother. This is foolish, because, as mentioned, in the case of children born in the orient with a maternal diet of mostly rice the weight of the babe is not influenced. In preparation for delivery the shaving of the parts is not necessary, clipping of the pubic hair being sufficient, because the use of a razor in the hands of a careless nurse might produce a tear or cut in the perineum or labia which would possibly be a point for infection. As carried out in the home this method would be comparatively simple, when all you would need is an extra pair of scissors with which to clip the hair. Especially is the cleansing of the external genitalia during labor and in the puerperal period entirely useless. There sterile water, as Dr. Plass points out, is the ideal thing, because certainly the antiseptic that could be used for this purpose would have to be so weak, as a 2 per cent solution of lysol, that it would not have any beneficial effect whatsoever. The most important point of all is rectal examination. One may perfect himself in making rectal examination, and, as Professor Plass says, use it to much better advantage than is the case with continued vaginal examination. We know also that vaginal examination, unless carried out under the most aseptic conditions, is likely to be productive of harm, especially in the home. In a well conducted maternity hospital it might be fine,

and yet a little slip in technic and there possibly would be introduced in the genital canal some bacteria that might be fatal. Therefore I follow this routine in my practice, and I would say that during the past five years in 1,000 normal deliveries I have made on an average less than one rectal examination in each case. There are many cases in which I make no examination whatever, and it is often needless because by external manipulation and auscultation of the fetal heart one can in many cases learn as much and perhaps more than in any other way, and your mind may be easier if you have not done anything to jeopardize this gravida. All you have to do is to sit and wait, it may be for ten or fifteen hours.

Dr. Plass (closing)—I am very grateful for the discussion, but had hoped there would be more unfavorable criticism. I thank Dr. Rice for emphasizing again the question of conservatism. I think he struck a very proper note in referring to the present time as the radical age when people have forgotten conservatism, which, generally speaking, brings better results than radicalism. He brought up the point of early examination of patients, and stressed that this has to come through education of the public. That education is already producing results. In our work at Detroit, we found during the last year we were there that something like 30 per cent of our obstetrical patients reported to us before the third month of pregnancy. Dr. Rice emphasizes the beginning of toxic symptoms and the importance of the blood-pressure. I would like to emphasize also an increase of weight as actually offering evidence of a toxemic condition earlier than does beginning hypertension. Answering Dr. Fuller's question, I think there is little reason to doubt the statistics that are available regarding the maternal death rate. Statistics throughout the country as a whole indicate a death rate of about one in 160 patients; in other words, roughly, one to 160 live births. I can cite figures which were checked over carefully in the health department of Detroit showing the death rate to be approximately the same. As I recall, it was 6.9 per 1,000 births, meaning that one out of 160 mothers sacrificed her life as the result of her child-bearing experience. My work with rectal analgesia has been so limited that I hesitate to give an opinion. We used it some four or five years ago when it first came out, but found it too sloppy (the only word I know that fits our experience with it), as the result of which we finally determined to discontinue its use, having been able to procure satisfactory results with scopolamin and morphin. As to nitrous oxid anesthesia, I think this ranks next to ethylene-oxygen. Many physicians are of the opinion that ethylene is a very dangerous anesthetic, and there is reason for that feeling. At the same time we have used ethylene now for years with great success and without any accidents, and believe that we have saved a considerable number of lives by its use. It takes a very cold-blooded scientist to view deaths of human beings in the light purely of statis-

tics, but if one has a tragic accident once in a series of 1,000 patients as was the experience at the University of Michigan, then if cold-blooded enough one can say that the use of ethylene is still justified, because if they had not used ethylene in those 1,000 cases they probably would have had other and more anesthetic deaths. I am glad Dr. Brown was able to agree with most of the procedures tending towards simplification which I brought before you. The fact that he independently has arrived at the same conclusions with regard to some of the points in technic is, I believe, fairly good evidence that many of us are thinking along the same general lines in attempting to bring our hospital technic to the point where the man who works in the home can follow the best procedures.

CONSERVATIVE MANAGEMENT OF ACUTE OSTEOMYELITIS*

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Whether a given method is to be called conservative depends upon comparison with what has been customary. Thus, the orthodox treatment for acute osteomyelitis as outlined in most textbooks and unfortunately still very generally advocated calls for prompt, early and radical surgery. Under this dictum the patients, mostly children, are rushed to hospitals whether by day or night, incisions are made, and the affected bones are bored or excavated according to the taste and predilection of the surgeon. This theatrical haste is held to be necessary in order to ward off hypothetically imminent septicemia and to limit the extent of the local damage; then finally, all bad end-results are naively charged to procrastination on the part of the family physician or to the unusual severity of the infection. Much of this has long been known to be nonsense and not in accord with the known pathology of acute bone inflammations.

Consider the exact stages and course of acute osteomyelitis and note the earliest point when operative procedures can be of any value, what procedures, and how extensive they should be. It will be easily recognized that acute inflammations in bone do not differ greatly from acute inflammations elsewhere and that their correct treatment can not be very different.

The process starts with the lodgement of blood-borne bacteria usually in that part of a growing bone long ago designated by Kocher the metaphysis; this is followed by hyperemia, congestion and stasis in the local capillaries; exuda-

tion of liquor sanguinis and leucocytes, and blocking of the larger blood-vessels (Haversian canals) by pressure or by thrombi; a corresponding ischemic devitalization or coagulation necrosis of the bone; liquifaction with abscess formation; sequestration; and finally, repair. This description has held, except for confirmatory reports, for a quarter of a century without change or addition. Moreover, except in certain incomplete and abortive cases, the order and sequence of the stages are invariably as here given regardless of any and all treatment other than immediate amputation.

The rapidity of the process as well as its clinical severity will vary with its relative virulence; but the ultimate extent of involvement does not consistently accord with either the degree of virulence or clinical severity.

In an average case one may say that the complaint of pain and the initial chill mark the thrombosis of the larger blood-vessels probably four to six hours after the lodgement of the bacteria. At the end of twenty-four hours ischemic coagulation has extended to the entire affected third of the shaft if in a long bone or to the whole bone if a flat one, with probably minute beginnings of liquifaction or pus formation in the areas about the central focus. In another day or two the pus will have penetrated through the cortex, but a purulent accumulation may not be demonstrable or its location determinable for some days—because of great swelling or slow pus formation or, paradoxically, because of slight swelling.

Thus at any stage and according to the location the treatment must strictly conform to the conditions then present. Further, the surgeon must especially remember that every operation on bone requires just so much extra repair in addition to the repair necessitated by the disease and this addition has often meant persistent sinuses instead of complete healing.

With the acute onset of pain, chill and fever, the earliest treatment may be instituted. However, it is noted that already the blood-vessels about the infected bone area are thrombotic, the circulation through the part is arrested, and a large part of this end of the shaft will soon be in a state of ischemic devitalization—a bone infarct. No operation with knife, drill, gouge or chisel can again start the circulation or reduce the extent of bone from which the blood supply has been cut off; neither can any reasonable procedure remove the infecting bacteria. Septicemia as a complication of acute osteomyelitis is possible at any time from the beginning to the end of the disease. In practice, however, it either precedes the bone lo-

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calization or accompanies it, while a bacteremia always precedes it, and the risk of septicemia is practically past before the bone lesion can be recognized. Early operation, therefore, not only does not prevent septic blood infection but even opens up plentiful avenues for it. (The toxemia which is relieved in a later stage by incising an abscess is not septicemia.)

Thus during the early stages of acute osteomyelitis the operating surgeon must consider himself nonplussed. Moist heat, prevention of contractures, and sedatives for pain constitute the early local treatment.

A close watch is kept for signs of abscess. An incision is made only upon a reasonable certainty of the location as well as of the existence of an abscess. The incision should go straight to the pus collection without burrowing through the tissues, avoiding all important structures and keeping well away from the epiphysis and the joint, and should stop with free opening of the abscess whether it is subcutaneous, interstitial or subperiosteal. *No operation is done upon the bone* as this could serve no rational purpose and would only hinder repair. In the case of a flat bone even the radical operator is satisfied with simple incision. Moist heat is continued as before. Special antiseptic methods, notably Carrell-Dakin treatment, may be used, but these give satisfaction only when sustained by a great faith.

As sequestration and repair proceed—and these are nearly simultaneous, the importance of not having drilled, cut or chiseled the affected bone becomes more and more apparent. It must be remembered that the so-called sequestrum of acute osteomyelitis is not truly dead like a foreign body. It is like a perfectly placed autogenous bone inlay, devitalized but not necrotic, and for a time obtaining its scanty nutrition only from the permeating serum. No one would drill or chisel an inlay; and a sequestrum so drilled or chiseled readily becomes necrotic as shown by the frequent extrusion of dead fragments, the protracted period of repair, and the persistent sinuses. It is significant that in nearly all long-standing unhealed cases the bones have been operated upon; more than that, in patients with multiple foci it is usual to see the operated lesions profusely discharging long after those conservatively treated have healed.

Thus at all times in the course of acute osteomyelitis the use of bone instruments is contraindicated by the pathology actually present; and such use can only make ultimate repair more difficult.

The appended case histories picture the average run of variations. Some came early, some late. Some will have loss of function because of the location of the lesion. All were treated conservatively except one—a small hole in the tibia, yet the pus went through the opposite side of the bone.

Case Reports

1. V. L., husky well-developed boy, age two and one-half years. Admitted September 20, 1925, ill one week, temperature 103, good pulse quality, taking about half rations, complained of pain in right leg. Slight swelling of whole leg, no localization, x-ray negative, high leucocyte count. Swelling also noticeable in the lower right thigh. Moist heat applied. October 5th, x-ray showed lesion in upper tibia and lower femur. October 14th, abscess of lower thigh also of leg, opened. Later other small abscesses of leg. February 2, 1926, x-ray shows sequestration in femur and tibia. November 8, 1926, small abscess of leg, incised; femur long healed; patient robust. March 16, 1928; well, bones by x-ray show little change from normal.

2. M. L., well developed girl baby, two months old, sick one month, fever and crying and finally swelling of left shoulder. Seen April 6, 1927, with a draining sinus at anterior axillary fold, arm fixed at shoulder joint, x-ray film showed acute osteomyelitis of upper end of humerus. July 15, 1927, sinus healed, shoulder motion returned. April 23, 1928, good function, no ossification seen in head of humerus, upper end of shaft broad. Child well.

3. C. A., pale, thin, ill boy, age five, admitted March 24, 1927, pain in left leg. Has had no fever as far as parents know and now 100. Appetite poor. Limitation of motion in hip joint but not fixed. X-ray films show focus about the junction of the shaft with the neck of the left femur. Little swelling. Cast, worn until November 25, 1927. General condition slowly improved. December 15, 1927, a small abscess on outside of upper thigh incised. February 27, 1928, slight drainage, x-ray shows normal bone trabeculae returning, a small bit of dead bone near outlet of sinus. Patient much improved, no impairment in the hip joint, patient still using crutches part of time.

4. P. S., very ill boy, age thirteen, admitted April 20, 1927, with painful and swollen left leg, ill for one week. Temperature 102.6. Immediate incision above ankle found pus outside bone, bone soft and opening with small curet found no pus in tibia. Temperature lower and some improvement. April 26, 1927, pain in right hip, some swelling and muscle fixation. May 5, 1927, x-ray showed osteomyelitis of head of femur and acetabular wall. Patient pale, little fever, left tibia draining freely from incision and now also sinus opened on opposite side of tibia. Hip cast until November 11, 1927, now generally improved, small amount drainage from tibia, spontaneous sinus healed. April 1, 1928, much improved, slight drainage from tibial wound, hip

firmly ankylosed, no pain or tenderness; x-ray shows normal trabeculae returning in the tibia and healing about the hip joint. There has been no discharge from the hip.

5. S. M., husky boy, age twelve, admitted June 21, 1926, with painful and swollen shoulder, fever 102-3, had been ill about two weeks. Deep fluctuation front and below shoulder. Incision of abscess. December 6, 1926, healed, x-ray shows bone in good condition, perfect function.

6. M. DeA., emaciated girl, age seventeen, ill seven weeks, painful and swollen right shoulder and arm. Shoulder rigid, two discharging sinuses at anterior and posterior axillary folds, fluctuation near elbow. X-ray on admission, August 29, 1925, showed advanced acute osteomyelitis of the upper end of the humerus. Abscess near the elbow incised, sinuses at shoulder spread with forceps. Seen one year later—quite well, 10 to 15 per cent diminished range of shoulder motion, piano player.

7. W. L. H., large man, age sixty-five, history of osteomyelitis of foot when sixteen which resulted in deformed foot but no trouble for many years. Seen October 15, 1925, one week after bruise from ear pedal, foot very painful and swollen. Moist heat. November 11, 1925, fluctuation, incised; x-ray showed lesion of cuboid bone. Healed about May 1, 1926.

8. A. H., very ill boy, age seven, admitted May 29, 1927, severe pain in the right lower quadrant and in the hip on movement. Temperature 103, pulse rapid, tender on deep pressure in the groin and appendix region. Appendectomy, swollen psoas-iliacus felt, abdomen closed; psoas-iliacus sheath opened beneath Poupart's ligament—abscess, also opening to ilium through gluteals. X-ray films before opening the abdomen had shown nothing, later films showed the entire ilium involved in acute osteomyelitis. Course stormy, high fever and delirium, slowly improved, psoas contracture relaxed. March 26, 1928, general condition fair, slight discharge from the sinus in the groin, hip joint freely movable, no contracture, x-ray films show normal trabeculation returning in most of the ilium but still some small areas of devitalized bone. Patient on crutches.

9. Classical virulent case (after meeting). LaV. S., undersized girl of age sixteen. Admitted May 30, 1928. Irrational, stuporous and ill; temp. 105.4, pulse 146, resp. 26. Nine days ago had a fall without special injury, next day began to limp with pain in the right thigh; grew worse gradually, some fever, and after four or five days was irrational in night; all symptoms much worse during twenty-four hours preceding admission, with oral temp. 106. Examination showed slightest difference in the two thighs, faint swelling and decided tenderness at the base of the right great trochanter. Some stiffness of neck—not fixed. Leucocytes 7500, next day 6500. Blood cultures May 30, June 1-5-13, all positive for staphylococci; afterward negative. Treatment: supportive, moist heat locally; on May 4, incision below base of

trochanter, 2 oz. of pus. No change in fever or other general symptoms followed this drainage; slow but steady improvement after two weeks; staphylococcus vaccine used. Home on Oct May 30, still some daily fever 100-1, slight drainage. X-ray showed lesion of femur at base of trochanter. September 3, 1928, completely well, at school.

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Discussion

Dr. Charles S. Krause, Cedar Rapids, Iowa—I feel that the essayist has brought before us a new field of surgery markedly different from that prevailing in the past. However, I can hardly agree with his method of treatment. I am of the opinion that the earlier the diagnosis, the quicker the part is opened and the pus allowed to escape, the less will be the damage to bone tissue. I do not believe one should wait for an x-ray positive. An x-ray negative means nothing. When you have waited for x-ray positive you have allowed the inflammation to go on to such an extent that a large amount of necrosis has already taken place which increases your chances of metastatic processes in other parts of the body. It is true that we have a septicemia, but I think we have more than a septicemia when we allow pus to be under pressure over a long period of time. We have pyemia, which may do a great deal of damage to the vital organs. I still believe in early opening because, in my judgment, it does no harm and a great deal of benefit may be obtained. Trephining the bone certainly does no permanent damage. If no pus is found we do not need to feel badly about it. The essayist spoke of the fact that often it ulcerates through into other parts after it has been trephined. Very true, this may happen, and the same thing may happen in the soft tissues, however, the next morning or a day or two later the abscess has broken through and you have a large amount of drainage. This simply means that you have not opened in the right place.

Dr. Donald Macrae, Jr., Council Bluffs—I am certainly interested in the paper, but I believe the Doctor should have chosen a special society for this innovation. It seems to me a little dangerous (though the essayist may be right) to promulgate this method of treatment before the general practitioner unless he is absolutely certain of his standard. I still believe that acute osteomyelitis is an extremely serious, dangerous condition. I have seen many of these patients, without any operation at all, die within a week. The cases Dr. Harnagel has

shown here are old ones; after they have gone that long they are lucky to be alive and may receive conservative care. We do not see these pictures in acute osteomyelitis, in fact the pathology cannot be demonstrated by x-ray. His cases illustrate chronic osteomyelitis. It is not the acute vicious type in which we fear death that he is talking about. In these acute cases we should get in quickly and then get out the same way. My experience with acute cases is that some of the patients die in four or five days if not operated and that early immediate opening seldom is followed by the extensive necrosis demonstrated today. I repeat, what the essayist has shown here is not the acute vicious type of osteomyelitis which must be operated on tomorrow morning if we are to get ahead of the game. I still believe that we should get in and open the bone or at least the periosteum after making the diagnosis, just as we would do in appendicitis. By the sense of touch you will find the spot, then go in and open the bone and get out, recovery quickly follows. I admit that the old cases shown here should be put at rest, but, to my mind, in acute osteomyelitis it is almost absurd to talk of not operating on the case within the first twelve hours if possible. While I may be wrong, I repeat, that in my opinion, the essayist should have confined this presentation to a group of men specializing in bone work. It is a little dangerous in a group like this. Let us go out and think about these things; if we think the essayist is right let's go to it, but do not go out of this hall without thinking for yourselves whether the course recommended here is the safe course to pursue.

Dr. D. S. Fairchild, Clinton—In regard to the treatment of acute osteomyelitis, I am not so well informed as to the prevailing practice today, but I do know that in times gone by early operation was the point we always considered. We were greatly afraid our patient would die if we saw him suffering from an osteomyelitis, and we always believed that we should operate on him quickly. Years ago operation for acute osteomyelitis was not so common as it is today, therefore in all cases we were confronted with the doubt as to whether the patient would give his consent to an early operation for at least the release of pus.

Dr. W. E. Wolcott, Des Moines, Iowa—A patient suffering with a sudden onset of high temperature, chills, pain near a joint and severe toxemia within the first forty-eight hours should immediately become a hospital case because we must consider the possibility of acute osteomyelitis. If the condition proves to be osteomyelitis we have a localized infective process early, the infection being in the bone, near the end in most cases. If a diagnosis of acute osteomyelitis can be made within the first forty-eight hours the bone should be opened, freely exposing the site of infection. I do not believe in trephining. Under such circumstances there is no more danger in opening and freely draining a bone

abscess than there is in opening the abdomen and draining pus from that area. If it becomes necessary to open an abscess in bone we should make a free opening, one that we can see into. The bone cavity and the soft part wound overlying it should be packed tightly with gauze and left open. If the gauze pack is saturated with vaselin or paraffin it will prevent much pain upon its removal. We prefer to back out of such a wound, so to speak, as the wound fills in from the bottom. During the reparative process the wound should be kept widely open so that we may see into all parts of it at all times. It is true that by this method the healing process is slow, but it will be permanent in a large per cent of cases, obviating the necessity of reoperating in the years that are to come. The x-ray plates shown by the essayist would indicate that he was dealing with subacute cases and not early cases of acute osteomyelitis in which immediate surgery is indicated. I believe that most of his cases will come to operation later and it would seem they are living examples of the lack of an early diagnosis, and under such circumstances the essayist was very wise in deferring surgery until a later period. I believe there is grave danger in urging so-called conservative treatment such as hot packs and watchful waiting in acute osteomyelitis. To my mind the free drainage of an infected area in acute osteomyelitis if done early should be regarded as conservative treatment. Infection in bone will respond to adequate drainage as well as will infection in organs or other soft tissues.

Dr. Murdoch Bannister, Ottumwa—I would ask the essayist if it is not a fact that early operation will relieve pressure and there will then be no necrosis?

Dr. Harnagel (closing)—The cases referred to here are those in which the condition came on as mentioned—with chill, pain, temperature ranging from 102-5, some of the patients were even delirious for a time; they were as nearly acute osteomyelitis as those cases described in the old-time books. I did not show early films, only the late ones. These are acute osteomyelitic cases just exactly as described in the books. You talk about early incision; there is no difference of opinion between myself and the gentlemen who have discussed this paper as to incising an abscess and letting out the pus. I have gone over the pathology very carefully and have shown that there is no pus in the first twenty-four to forty-eight hours. When you can find it, let it out; there is no dispute between you and me on this point. But do not go in there and do a lot of things to the bone that later will have to be repaired. Replying to Dr. Bannister, there cannot be any swelling in bone. In order that swelling may take place there must be chance for expansion. There is no such expansion in bone except along the Haversian canals, there is no pressure in there that one can measure, no pus pops out as out of an abscess in soft tissues. Dr. Krause mentioned multiple foci.

The multiple foci appear after the original focus has been operated on in practically every case. Multiple foci may keep on coming for two years after operation has been done. Therefore one does not help the condition at all by going in early and raising Cain. There is no difference between septicemia and pyemia at that stage. You say that early trephining does not do any harm—this depends on what you call harm. The patient does not die, but it takes a long time for him to get well, so I say harm is done. There is no pus to be found in bone in the first twenty-four hours, and very often for three days. I mentioned that these were acute cases, and because of this these x-ray films I have put up here are late only; there was no use showing a normal x-ray. I do not believe it is very dangerous to call attention to these things before a society of this nature. Every physician here knows that he has had to take care of the case after the surgeon has gotten through with the patient who is walking with crutches many months after the surgeon operated. I have been asked why surgeons always operate on these cases. I do not know, but often the results are unfortunate. This paper is for those who are not satisfied with the results secured by the old method. All those who have not been satisfied with the results obtained under the old system may try it.

INTRATHORACIC MALIGNANCY*

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This paper will deal with all intrathoracic growths, mediastinal or pulmonary, which without treatment tend to progressive enlargement, metastases and death. Many of them, in the strictest meaning of the term, might not be considered malignant, but all are malignant in the sense that without treatment they eventually result in death.

It has been my observation that in the diagnosis of chest conditions, we are prone to depend too much on certain physical signs to make a diagnosis, and spend too little time in obtaining and evaluating the subjective signs which are of the greatest importance, and often lead to a clew which by the help of x-ray eventually make a diagnosis. There is also the tendency in examining chests to think of the lungs chiefly and ignore the space between the lungs known as the mediastinum. We should remember that in this comparatively small space, bounded behind by the spine, in front by the sternum, and laterally by the pleurae, are housed probably the most important structures of the entire body, and patho-

logical processes in this location are not uncommon. The contents of the mediastina viewed from the front are as follows: Vagus nerve, internal jugular vein, common carotid artery, subclavian vein, left innominate vein, phrenic nerve, subclavian artery, aorta, trachea, bronchial lymph nodes, pulmonary artery and veins, right ventricle, descending vena cava, left bronchus and right auricle. Viewed from the rear we find the thoracic duct, esophagus, vagus nerve, phrenic nerve, recurrent laryngeal nerve, common carotid artery, pulmonary artery, left bronchus, aorta, right bronchus, and right pulmonary artery and veins. In addition remains of the thymus gland may be present and cause trouble. Thus there are crammed into a small space a variety of structures which will not stand for much encroachment, or pressure without expressing themselves in subjective signs.

Malignant neoplasms of the chest have been arousing considerable interest in recent years because of the increasing frequency of their recognition. For this we are practically wholly indebted to the fluoroscope and x-ray. Early recognition of certain types of these tumors is of great importance because intensive radiation therapy, offers these patients the only hope for relief if not permanent cure.

It seems logical to me to discuss all chest tumors together, since the great majority of them arise in or near the mediastinum. There always has been and still is great confusion when one attempts to classify this group of conditions. It seems to me that the most simple way is the best and that would be a classification according to the tissue from which they are derived, which is as follows:

Mediastinal Tumors:

1. Lympho blastomas or malignant lymphomas.
 - A. Lympho sarcoma.
 - B. Pseudo leukemia.
 - C. Lymphatic leukemia.
 - D. Hodgkins disease.
2. Thymoma.
3. Sarcoma originating from areolar connective tissue.

Lung Tumors:

1. Carcinoma.
2. Sarcoma.
3. Endothelioma.

The group designated as lympho blastomata or malignant lymphomata have their origin in the mediastinum and are characterized by progressive enlargement of lymphoid tissue as the predominating feature. The four types in this group are very closely related and frequently pathol-

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ogists disagree as to whether for instance, the tissue which they are examining is pseudo leukemia, lympho sarcoma or Hodgkins disease. However, clinical differentiation is frequently possible. It is unusual for the lymphatic enlargement in leukemia to be limited to the mediastinum and if such a condition did exist the blood picture would solve the difficulty. Under like conditions it might be impossible to differentiate pseudo-leukemia from lympho sarcoma. Hodgkins disease involving the mediastinum is usually accompanied by adenopathy elsewhere and it does not present the invasive characteristics of lymphosarcoma, the latter having a tendency, at its extreme, to involve tonsils, gastrointestinal tract and serous membrane particularly. Hodgkins granuloma, however, especially when it develops in the mediastinum is quite prone to take on sarcomatous tendencies.

Sarcomas originating from areolar connective tissue in the mediastinum are usually very malignant and do not respond to radio therapy in the degree that the lympho blastomas do.

Malignant thymomas deserve mention because they are being recognized frequently and respond wonderfully to radio therapy. They are derived from thymus tissue and located high in the mediastinum. They frequently show strict encapsulation within the mediastinum, are not usually invasive, and often produce a typical thymic shadow on the x-ray plate.

Of the lung tumors carcinoma is the most frequent and the incidence has apparently increased greatly in the last ten years. Many observers attribute this increase to the influenza epidemic of 1918-19. Considerable evidence has accumulated which apparently demonstrates that acute and chronic inflammations of the bronchi are at least fertile soil for the development of carcinoma. Freidrich Feyrter made a systematic examination of the bronchial tree in four cases of pavement epithelium carcinoma and observed all the epithelial changes which are known to exist in acute and chronic inflammations. There is at least some reason to believe that carcinomata develop in bronchi previously exposed to inflammation or irritation of some sort. In the cobalt, nickel and bismuth mines of Schneeberg, Germany, where 600 to 700 men were employed there was a yearly mortality of twenty-one to twenty-four from cancer of the lung. After a thorough investigation, it was thought that the tumors resulted from the chance occurrence of arsenic in the ores. After proper ventilation was installed in the mines the disease disappeared.

Carcinoma of the lung is divided by Ewing into three groups according to the histogenesis: (a) originating in bronchial epithelium; (b) in bronchial mucous glands, and (c) in alveolar epithelium. The big bulk of carcinomata originate from the bronchial epithelium or mucous glands and grow out from the hilus along one or more bronchial trees. Later developments are pleurisy with effusion, atelectasis from occluded bronchi, and occasionally mixed infection with abscess formation. Carcinomata, however, may originate in any part of the lung. Metastases usually occur early and are quite widespread. Endothelioma is usually a tumor, primary in the pleura, occurring either upon the parietal or visceral pleura, usually of slow growth and has very little tendency to metastasize. Endothelioma, however, may be primary in the lung itself, developing from the endothelial lining of the lymph spaces. As a primary malignant neoplasm of the lung however, it is very rare.

Primary sarcoma of the lung is also comparatively rare. In its growth and development it corresponds so closely to carcinoma, that it generally escapes diagnosis. Sarcomas usually occur as one solid tumor, enlarging uniformly in all directions. The secondary symptoms consequent upon occlusion and infection of the bronchus are much the same as cancer. Histologically these tumors are usually of the spindle cell type but occasionally impossible to distinguish between sarcoma and carcinoma.

The symptoms of chest tumors are worthy of careful consideration, because a correct diagnosis, hinges on the clue obtained by the patient's recitation of symptoms present. Mediastinal tumors always present some subjective signs fairly early in the disease, and these signs almost invariably result from pressure on structures in the mediastinum. The mediastinum is comparatively small and one or many pressure signs may develop early. The signs present depend upon what structure is being compressed. The most common symptoms in order of frequency are hoarseness, brazen cough, dyspnea, and dysphagia. Pressure on the recurrent laryngeal nerve produces hoarseness, aphonia, and spasm or paralysis of the vocal cord. Pressure on the trachea produces a brazen cough, dyspnea on exertion, stridor, bronchorrhoea and occasionally hemoptysis. Pressure at the root of the lungs causes insufficient aeration, pulmonary collapse and possible consolidation or chronic pneumonia. Paroxysmal attacks of neuralgic pain in the chest result from compression of nerve trunks. Pressure upon the vagi produces dyspepsia, nausea,

vomiting, dyspnea and hiccough, and upon the phrenic nerve unilateral paralysis of the diaphragm with pain about the neck just above the clavicle. Physical changes produced from pressure of these tumors consist of cyanosis, and edema of the head and upper extremities resulting from pressure on the superior vena cava, hydrothorax from pressure on the right pulmonary veins, marasmus due to pressure on the thoracic duct, changes in the pupils from pressure on the sympathetic nerves and unilateral sweating, blushing or pallor from pressure on only one of the sympathetic trunks. Any one of the above symptoms or signs in a patient past middle age, and in whom other causes can be ruled out, should lead to the suspicion of mediastinal malignancy and the proper investigation. Hoarseness is perhaps the most common symptom. If laryngoscopic examination shows no pathology in the larynx and the Wassermann is negative, it is quite certain that there is pressure on the recurrent laryngeal nerve. Dyspnea not accounted for by cardio renal disease, luetic heart disease, acute infectious diseases, diabetes, tuberculosis, or blood dyscrasia leads to the suspicion of mediastinal tumor. Dysphagia and occasional regurgitation of food is a very suggestive symptom and only recently was the one symptom which led to a correct diagnosis in my own practice. Cough, not explainable on the basis of tuberculosis, bronchitis, bronchiectasis or heart disease, should not be passed over lightly. Fever is a common finding in chest malignancy and its presence should never have a tendency to bias one in his suspicion of malignancy. Summarizing the symptomatology, we should always suspect mediastinal malignancy in a patient, usually a male, whose age is between forty and sixty, complaining of malaise, progressive loss of weight, hoarseness, cough or dysphagia, shortness of breath and indefinite pains in the chest. Since carcinomata of the lung usually originate in or near the mediastinum, their symptomatology may be identical with those of the lymphoblastomata, but symptoms referable to the bronchial tubes usually occur early in these cases. Cancer of the lung may be present for a considerable period of time, without causing symptoms of sufficient urgency to force the patient to seek advice. As a rule the earliest and most significant is a dry, hacking cough due to irritation of the bronchus from the tumor. This cough later becomes productive of tenacious mucous and finally blood stained sputum. The cough is persistent and not relieved by the usual medication. Fever may be present and not infrequently a diagnosis of pulmonary

tuberculosis is made. We should be very careful in making a diagnosis of tuberculosis in a man past middle age complaining of loss of weight, fever and hemoptysis. Later on the patient develops dyspnea, indefinite deep pain in the chest and any of the pressure symptoms above enumerated.

The physical signs in chest malignancy, depend entirely on the stage of the disease. It is important to again emphasize that physical signs are commonly conspicuous by their absence in early cases, and the diagnosis must be made from the symptoms and x-ray findings. A one sided pleural effusion is a common finding at some stage of the disease. The effusion is quite commonly sero-sanguinous and mononuclear cells predominate. An area of dullness over the region of the tumor may or may not be present. Generalized adenopathy often accompanies those conditions and biopsy of a gland may clear up the diagnosis.

The various symptoms and signs which I have enumerated so far in this paper are only suggestive and not pathognomonic. They merely indicate what should be done to complete the diagnosis. Without the x-ray we would be greatly handicapped, and the more frequent recognition of these conditions at the present time is a direct result of the increasing frequency of x-ray examinations. Fluoroscopy of the chest alone, with the patient in various positions practically always reveals with certainty the presence or absence of a neoplasm in the mediastinum. The type of neoplasm can of course not be definitely determined. Fluoroscopy shows whether or not the enlargement pulsates, indicates its exact location in the mediastinum, and its relationship to surrounding structures. The x-ray plate gives an opportunity for detailed study of the shape, size and outline of the tumor. Aneurysms cannot be absolutely differentiated by the x-ray, but the history of the case, duration, Wassermann test and physical signs will be successful in differentiating this condition. Definite diagnosis, by means of the x-ray of the type of malignancy present is usually not possible. The x-ray picture of Hodgkins disease however is often quite typical. The growth extends from the hilus of the lung, is bilateral, diffuse and characteristically feathery in outline. Lymphosarcoma is usually distinctly circumscribed and as a rule unilateral. Malignant tumors in the lung itself must be differentiated from tuberculosis and usually can be. The more or less rounded and homogeneous neoplastic shadow is quite unlike the mottling of tuberculosis. An abscess shadow is

ordinarily of uniform density but often has a hazy, irregular border shading gradually into the surrounding tissue, with the center sometimes rarefied and containing a fluid coil. A carcinomatous lymphangitis may be indistinguishable from tuberculosis.

In the diagnosis of cancer of a bronchus, bronchoscopy is of the utmost importance and in skillful hands is not dangerous, but it certainly is not a safe procedure for the tyro. Cancers arising from bronchial epithelium can be observed directly and tissue removed for examination. It therefore is the most positive diagnostic procedure available. The introduction of iodized oil or lipiodol into the trachea may be of help in showing the location of an obstructed bronchus. Injection of a few hundred c.c. of air into the pleural cavity gives valuable information in the differentiation between an inter-lobar empyema and a lung tumor. If the artificial pneumothorax shows a complete separation of the lung from the costal pleura with secondary atelectasis a lung tumor is probably present, while extensive adhesions (failure of the lung to collapse) speaks for an interlobular empyema with pleural thickening.

Laboratory procedures are usually not of much assistance in the diagnosis of chest malignancy, but occasionally, especially in cancer of a bronchus, bloody sputum may contain bits of tumor tissue which can be identified with the microscope. Bloody pleural fluid containing a predominance of large mononuclear cells, is of the utmost importance in diagnosis if tuberculosis can be excluded.

In the differential diagnosis many things must be taken into consideration. It is important to remember that primary chest malignancy is infrequent below the age of forty and above the age of sixty-five. Men are attacked three times as frequently as women. The duration of the disease is rarely over eighteen months if untreated. Tuberculosis of the lungs manifests itself usually before the age of forty, tubercle bacilli may be found in the sputum and the x-ray picture differs. Aneurysm can usually be excluded by the presence of a pulsating tumor, physical signs such as tracheal tug and diastolic shock, Wassermann test, duration of the disease and lack of asthma and loss of weight. Chronic mediastinal sclerosis resulting from syphilis or tuberculosis, deserves consideration, because this condition may result in pressure symptoms. The x-ray and clinical findings however usually serve to differentiate this condition. Tuberculous glands, aortitis, dilatation of the aorta, cardiac

hypertrophy and pericarditis with effusion must all be considered. Cancer of the esophagus of course must always be considered first, in an elderly patient who is complaining of dysphagia or regurgitation of food. The fluoroscopy and x-ray examination with the administration of barium or bismuth is conclusive in differentiating this condition. Benign tumors can usually be differentiated by the fact that they occur earlier in life, are not accompanied by constitutional symptoms, are not invasive and with the exception of thymic enlargement and retrosternal goitre do not respond to radiation. Simple lymphomas are localized, self-limited chronic enlargements of lymph nodes, which are non-invasive and rather common pathological conditions. It is reasonable to suppose, that some of the mediastinal tumors belong to this class, and that any symptoms caused are solely due to pressure on adjacent organs or nerves. Hypertrophy of the thymus, while commonly occurring in the infant, is not limited to children. Several cases have been reported of non-malignant hyperplasia with enlargement to several times the normal size. Dermoid and other cystic tumors, fibroma, chondroma, etc.; occur in the mediastinum, and many of them originate in the thymus. It is obvious that there might be some difficulty in distinguishing them from the conditions already cited. X-ray treatment in these cases may be used as an aid to diagnosis, since they do not reduce in size after x-ray treatment.

As in diagnosis, so in treatment the x-ray is the most valuable agent at our command in chest malignancy. The malignant tumors discussed in this paper do not respond equally to radiation therapy, but all will show some reduction in size and many disappear entirely. High voltage x-ray therapy is of course used in all cases. In radiation of these cases Evans and Leucutia have shown that in their response the general laws of cellular radio-sensitivity hold good, viz:

1. The more embryonal and undifferentiated the type of the cells, the greater the response to radiation. (Tribondeau-Bergomieu law).
2. Dividing mytotic cells are from eight to fifteen times more vulnerable than when at rest. (Mottram).
3. Hyperchromatic cells are more sensitive than cells poor in chromatin.
4. Tumors rich in paraplasmic structures are more resistant to radiation than cellular tumors.
5. Tumors well supplied with blood and lymph vessels respond more readily to radiation than tumors consisting of solid cell masses.

In accordance with these laws mediastinal tumors originating from the lymph nodes will respond best to radiation, and tumors originating from the proliferation of the lymphocytic element will respond more readily than tumors originating from the proliferation of the reticulo-endothelial element. Benign tumors, on the other hand, because of their mature adult type will show little or no response to radiation. Sarcomas, carcinomas and teratomas will occupy an intermediate position. There will be a more or less pronounced initial response, but later, unless further exposures are given, recurrence of the disease will follow. Evans and Leucutia report the following rules established in practice:

1. Tumors originating from the proliferation of the lymphocytic cell element of the mediastinal lymph glands or of the thymus such as lymphosarcoma, thymomas, pseudo leukemia, lymphatic leukemia and simple lymphomas, entirely disappear within from four to ten days following the administration of from 90 to 100 per cent skin unit dose of roentgen rays over the tumor mass. If there is no further extension of the disease at the time of the treatment, patients will remain well; but if the lesion has already microscopically invaded other parts or organs of the body, later new manifestations of the disease occur and the patients may die as a result of these manifestations. In no instance have we seen a local recurrence in the group of tumors mentioned, if the lesion once disappeared.

2. Tumors originating from the proliferation of the reticulo-endothelial cell element of the mediastinal lymph glands and thymus (Hodgkin's disease, Sternberg's type of hyperplastic tuberculosis, endothelioma). These tumors are reduced within ten days following the administration of a 90 to 100 per cent skin unit to about one-half their original size, and then entirely disappear within six weeks following the exposure.

3. Other primary tumors of the mediastinum such as sarcomas, originating from the areolar connective tissue (fibro sarcoma, large round cell sarcoma, alveolar cell sarcoma, carcinoma of the thymus or thyroid glands and terotoma). These tumors show a more or less pronounced reduction in size following the administration of the 90 to 100 per cent standard skin unit dose, but they rarely disappear at the period of six weeks following exposure. In such cases the radiation helps us in establishing the fact that we are dealing with a malignant tumor, but no accurate diagnosis can be made with regard to the type of tumor.

4. Benign tumors of the mediastinum such as lipoma, chondroma, fibroma, adenoma, myoma, neuroma, dermoid cysts, etc.; are very little or not at all influenced by radiation.

In a general way then the group of tumors designated as lymphoblastomas respond remarkably to radiation, as do thymomas. Sarcomas derived from areolar connective tissue respond to a less degree and carcinomata are the least amenable to this therapeutic procedure. Surgical intervention in chest malignancy is very difficult and to date has been attended by a high mortality. The large majority of the tumors, start near the root of the lung, metastases may occur early, and the tumors are in close relationship to the large pulmonary vessels and vital mediastinal contents. Lenhart was successful in one case out of five, this case surviving eighteen months. Morriston Davies reported a successful case of resection of a lobe of the lung for carcinoma of the lung. In 1920 Sauerbruch reported five partial excisions of the lung for cancer, he achieved a five year cure by excision of a cancer bearing lower lobe, and a three year cure by excision of one lung, and part of the diaphragm.

CONCLUSIONS

1. I have considered malignant chest tumors together, because of their usual origin in or near the mediastinum, and attempted to bring out the main points in their differentiation.

2. Early diagnosis of malignant chest tumors is of the greatest importance, because cures may be obtained in those cases, which have not become invasive.

3. All patients with symptoms indicating pressure within the mediastinum should be given a fluoroscopic examination of the chest followed by an x-ray picture.

4. Hemoptysis in patients past middle age should suggest malignancy first and tuberculosis second.

5. An idea of the type of tumor present can be gained from the result of radiation.

6. Radiation promises a cure in many and palliation in practically all of the malignant chest neoplasms.

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THE DIAGNOSIS OF NEURASTHENIA*

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Neurasthenia is a term which has been used for many years, being first used by Beard of New York in 1869. It is supposed to be synonymous with such terms as nervous exhaustion and nervous prostration and is intended to be used to designate "a functional nervous disorder, characterized by manifestations suggestive of a state of fatigability and irritable weakness which may be observed in any or all of the bodily organ activities and yet without any evidence of disease". (Neurasthenia—H. Douglas Singer-Tice, volume x.)

Although the incidence of neurasthenia has undoubtedly increased in the past few years, in my opinion the number of the diagnoses of neurasthenia has increased out of all proportion to the true incidence of the disease. In other words, I believe that to make a conscientious diagnosis of neurasthenia compels the diagnostician to undertake as thorough and exhaustive an examination of the patient as can be imagined for any other obscure disease.

We are all acquainted with the patient who insists on showering us with their complaints, so that inside of five minutes we strongly suspect, if indeed we are not thoroughly convinced, that we have to deal with just another "neuro". However keen our friends the psychiatrists may hold themselves, I am yet to be convinced that a conscientious diagnosis of neurasthenia can be made by any of them in any little fifteen minute talk across the desk in the office.

So many cases of supposed neurasthenia are found after painstaking examination to be suffering from actual disease of various sorts that I have begun to suspect that the man who declares he has a great number of cases of neurasthenia in his practice is really admitting his own lack of time for thorough examination, or it may be, his own laziness.

There is no doubt but that neurasthenia actually exists. It may exist as an entity, that is, a purely functional disease—or it may co-exist with organic disease. However, in the latter case, the true organic disease often is the point on which the inverted pyramid of symptoms rests—and with the elimination of the point of support, the whole structure crumbles and the patient is relieved of all the multitudinous symptoms which have troubled her.

I say her advisedly, because we possibly are more familiar with the female type of neurasthenia, but males are by no means excluded from the disease. In fact, they are only slightly less in incidence to the female number.

We are all entitled to our own personal opinion in regard to the exciting causes of neurasthenia. However, I think we are all agreed that overwork and emotional stress are the most important, with possibly the aftermath of the infective fevers causing a great deal more trouble than we have heretofore suspected.

The neurasthenic patient is usually unable to tell the physician the exact time at which his malady began. It is apparently an insidious thing. The symptoms are usually as varied and numberless as the snowflakes, but a few seem to stand out as being fairly common to all of the sufferers from the disease. The subjective symptoms of which the patient complains practically always include the mental aspect. Complaint is made of not being able to think, of the head feeling empty, of worrying, and of irritability. The trend of thought recurs to his pain and suffering. Loss of sleep is commonly mentioned and the amount of insomnia is usually grossly exaggerated. Headache is extremely frequent and is most often located in the top of the head. Photophobia, head noises, dizziness, hot flashes and disturbances in the organs of smell and taste may be commonly present.

The gastrointestinal tract is rarely left unmentioned. Lack of appetite, feelings of fullness or distension, gas formation, and nausea are frequent. Cancer is the thought always in the background.

The heart is also seldom overlooked. Sinking sensations, flushing of the face and head, dizziness, throbbing in the ears, tachycardia and "flopping" of the heart itself are all noticed by the patient and immediately thought of by them as manifestations of "heart trouble".

Together with this may be coupled symptoms referable to the respiratory system such as pain in the chest, dyspnea, choking sensations and respiratory rate changes. Tuberculosis is usually immediately suspected by the patient under such circumstances.

The genito-urinary system is practically always involved in one way or another. Polyuria and oliguria may follow each other in quick succession. Frequency and irritation may be present, or pain felt over the kidneys. Sexually, the patient is usually below par and may become the victim of one or another of the various common sexual obsessions or phobias.

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Besides the various things mentioned there may be many other varied complaints, in the telling of which the patient may demonstrate a wonderful talent for description.

With all of these things mentioned to the physician, it is then his duty to examine the patient thoroughly in order to properly evaluate the symptoms. As has been mentioned, neurasthenia and organic disease are not incompatible. Organic disease may be the basis of neurasthenic symptoms and conversely, neurasthenia may produce enough malnutrition and faulty habits so that organic disease may become super-imposed upon it.

However, the great task of the physician is to examine his patient so thoroughly that he is compelled to make the diagnosis of neurasthenia due to the lack of pathologic findings.

Of the diseases most commonly found which may be causal factors in the production of neurasthenic symptoms are the following: incipient pulmonary tuberculosis, syphilis (especially of the nervous system), arthritis, endocrine disturbances, such as diabetes, hyperthyroidism, or even Addison's disease, subacute combined sclerosis, esophageal stenosis, pylorospasm, gastric or duodenal ulcer, colitis, chronic cholecystitis, or appendicitis, ureteral stricture, renal stone, hemorrhoids, rectal fissure, prolonged lactation, rapidly recurring pregnancies, severe loss of blood, due to injury or disease and "prolonged overwork under emotional stress".

Added to these may also be mentioned the beginning psycho-neuroses and incipient insanities.

If all these and any other diseases suggested by the patient's story may be ruled out conclusively, then the physician may conscientiously state that the diagnosis is neurasthenia, but not until then. To repeat, it is my belief that neurasthenia is a difficult diagnosis to conscientiously make because of the work it demands and I am afraid that the increasing numbers of diagnoses under this heading is somewhat of a commentary on our willingness to jump at conclusions and save a lot of work, which probably wouldn't be appreciated anyway! Certainly I should take no man's word that a person is neurasthenic unless he is prepared to prove it with conclusive evidence of the absence of organic pathological findings.

Discussion

Dr. Frank A. Ely, Des Moines—Neurasthenia as a clinical entity stands upon a purely empirical foundation. We recognize a group of nervous phenomena characterized by fatigability, nervous irritability, and mental depression, associated with a thousand or

more secondary symptoms referable to the various organs of the body. This we call neurasthenia. If we could be letter perfect diagnosticians, we would seldom make this diagnosis. I think it would be far better if we would satisfy ourselves with making such diagnostic notations on our history blanks as these—Neurasthenic syndrome: cause not determined; or, neurasthenic syndrome: due to endocrine dysfunction, or whatever cause seems most logical and probable. If we did this, we would school ourselves to a more scientific way of thinking. I have repeatedly fallen into error in making a diagnosis of neurasthenia, by mistaking for it, the early hypochondriacal complaints of dementia praecox; the early apprehensions of manic depressive insanity; and the initial symptoms of arteriosclerosis, senile dementia, tuberculosis, and thyroid disease. The only way to avoid these errors is by acquiring more intimate knowledge of the diseases most apt to lead us astray, and by maintaining a broad mental attitude toward bodily disease as affecting the whole organism, and not individual organs or groups of organs. In conclusion: I must emphasize the importance of increasing our knowledge of the various phases of constitutional inferiority. A poorly constructed human machine stands the adversities of life poorly; consequently the inferior individual is most apt to show a neurasthenic syndrome.

Dr. Max E. Witte, Clarinda—It is only proper that I should join this experience meeting. I simply want to stress in unmistakable terms the warning indicated by the essayist—when we come to make a diagnosis of neurasthenia, pause and heed the warning that you see at railroad crossings: stop, look and listen. If you pause to make a closer study of the case you will find it time well spent. Neurasthenia, a great deal more often than not, is something much graver. The prodromal stage of paresis is indistinguishable from neurasthenia as described by the specialists, and so, my friends, call a halt and take the laboratory into your confidence and to your assistance, and if you find a positive Wassermann then you know the trouble is not neurasthenia, but something far more serious, perhaps the beginning of paresis or, similarly, other grave organic disease. So apply this test before making a diagnosis and see if you have not overlooked something.

Dr. Emil C. Junger, Soldier—General discussion means the general practitioner, and this subject is one that affects us all because we are all more or less neurasthenics. I always like to go back of things and see what is the cause of the condition. Unless we can get back to the cause of whatever we are dealing with we will not be able to do much for the patient. I think neurasthenia is a condition where the tail wags the dog. If it is a condition that has come on gradually, then there is some irritation back of it that has been working for years, and this might be one of 100 different things. It may be poverty, although people generally keep busy enough at work if poor and are so inclined,

when they seldom develop neurasthenia; it may be sexual disturbances of some kind; it may be too much automobile buying; it may be not enough congenial work; it may be and probably 99 times out of 100 is too much to eat of the things that are not proper food. Food nowadays lacks the elements that build up normal men and women, we don't get the right kind of start in this country. We are controlling infectious diseases fairly well because we have educated the people along this line, but nutritional diseases, about which people do not know so much, are now on the increase. We develop various alimentary toxins and can't enjoy things normally, we can't work or sleep or do anything right, and every normal sensation that should make us feel good is over emphasized and we feel badly upset instead. This country is going to the dogs as far as the physical is concerned. Now, if we had a democratic administration with four or eight years of good hard times we wouldn't see one neurasthenic where now we see many. If we had to dig in and work like they used to of yore, we wouldn't see so many cases of neurasthenia. We are living too easy, we don't exercise enough, we don't live right, we are bringing a lot of trouble on ourselves, and the more you fool with a neurasthenic the worse he or she gets. If you contemplate operation in the hope of relieving the condition, you find on examination that there is no indication for operation. In many cases men who are educated and should know something, but are not obliged to work, have neurasthenia. Hard work is one of the greatest blessings in the universe. If we had to get up early in the morning and go to work after a simple breakfast that tasted good, and if we lived correctly, a lot of these problems would be solved. In my part of the country I am talking prevention. Two thousand years ago a Man was persecuted and finally put on the cross for talking something the people could not understand. He was too far ahead of them, and there are many things in that teaching we cannot see today. We are dealing with end results in practically all these diseases. Let us get back to the cause of this thing. We might work ourselves out of a certain kind of job by putting over the ethical, ideal program of teaching people how to live correctly, but we would get far more satisfaction out of it. Instead of working with the sick to get them well, let us work with the well to keep them well. I am getting tired of seeing sick people all the time—there is more kick in seeing some well ones. That is the reason I come to the meetings of this Society. Most doctors are well and people expect them to stay well in spite of the irregular hours for work and rest and recreation. As to the younger generation coming on, I can see the difference in those boys and girls; they are mostly neurasthenics, they are down and out at thirty. They do not get the right start. Young mothers have babies now, but after one of these girls has one baby she is about all in physically, that is all she can stand; after that she is a semi-invalid. We are going to the dogs, and

the doctor many times is negligent in trying to teach the people how to live. Of course they don't listen to us much, nevertheless we get a lot of kick out of telling the people how to live and thus do our duty as true physicians. The time will come when it will be as much of a disgrace to be sick as it now is to be a criminal. Instead of enjoying poor health as so many people do, and they are encouraged to find new diseases and symptoms by doctors (?) of various kinds. If you are sick because you have broken all the physical laws in the universe, employ a reputable doctor to set you right, but beware of those healers that always find so many mysterious outlandish things the matter with you. There may be a reason!

Dr. Frank A. Ely—I am very much interested in Dr. Junger's discussion of this paper. Next to the neuralgics, the neurasthenics are the hardest people to manage I have ever had to deal with.

Dr. Granville N. Ryan, Des Moines, Iowa—I find it quite difficult to add anything of special import to this very valuable paper since this brilliant discussion has been made by my good friend Doctor Junger. The diagnosis of neurasthenia frequently covers a multitude of sins, many of which are sins of omission, and when we usher in a patient of this type it is most important to have plenty of time at our disposal. I am very sure we realize that it would be a great mistake to consider this subject without having in mind various conditions which might be responsible for the symptom complex. Among these might be mentioned the early stages of pulmonary tuberculosis, toxic goitre, lues in its various forms, focal infection, etc. If all findings are negative, then these neurasthenics should be handled with great tact and diplomacy. Treatment should be carefully considered with the thought of not producing a narcotic habitue. We should also advise graduated exercise and full instructions as to diet. In fact, a complete program should be made out for these unfortunates. If some definite line of treatment is prescribed, a large percentage of these patients will be kept from visiting the quacks. I take pleasure in commending Dr. Parsons for his contribution which we have all enjoyed so much.

Dr. Parsons (closing)—I wish to reiterate the statement which I consider to be the theme of the paper: A diagnosis of neurasthenia is not possible unless the physical findings are absolutely negative in the presence of a functional disorder. It is true that we may educate the people so that neurasthenia will not occur, and this is very greatly to be hoped. However, in the meantime we still have with us plenty of neurasthenics, and also a great number of people have had this label tacked on them without a careful physical examination having been made, some of them without any physical examination whatsoever. Our educational program should continue, our contact with the laity should be more highly developed than it is at the present time, and our method of making periodic health examinations

should reflect progress and be worked out on a much greater scale. But in the meantime we still have our neurasthenics who are not examined. The point I wish to stress is the complete examination of any persons who come in with a great multitude of symptoms that are very obviously functional in character, and those cases in which by thorough examination we cannot elicit physical findings to account for the symptoms are the only ones that can be labeled neurasthenia.

NEPHRITIS IN CHILDHOOD*

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The classification of nephritis has long been a problem and a classification satisfying all groups in the profession may never be attained. It is the purpose here to discuss two clinically definite types of acute nephritis seen in childhood. Most of the acute cases occupy one or other of these types although there may be a variation from the typical. The types are:

1. Acute hemorrhagic nephritis (glomerular).
2. Parenchymatous nephritis (nephrosis).

ACUTE HEMORRHAGIC NEPHRITIS

Acute hemorrhagic nephritis is the acute type most frequently seen in childhood. The outstanding feature is the hematuria associated with symptoms of general infection.

Etiology—Acute hemorrhagic nephritis is usually due to a streptococcic infection most often localized in the tonsils and adenoids, secondary to scarlet fever, acute tonsillitis and other upper respiratory tract infections. There is evidence of a general capillary change over the whole body. In the kidneys the lesions are seen mostly in the glomeruli. The capillary pressure in the skin has been observed to rise before the appearance of nephritis in cases of scarlet fever. The capillary loops in the nail bed are irritable, and in a well developed case the proximal limbs of the capillaries appear irregularly contracted while the distal limbs are dilated and tortuous. It is known that there is a vascular injury, whether due to bacteria, to toxins or to other factors is a problem unsolved. There is little doubt that such factors as improper diet, exposure to cold and exertion are contributory. These contributory factors alone can certainly not produce hemorrhagic nephritis. If these factors are added to an already active capillary damage one can see how the overload may produce a nephritis.

Signs and Symptoms—The onset is with a puffiness of the face with pallor which may be associated with a moderate edema of the extremities. Frequently there are gastrointestinal symptoms such as vomiting or diarrhea. These symptoms are probably due to the vascular changes. The fever and leucocytosis simply indicates the presence of an infection. The urine may be decreased in amount, completely suppressed or there may be a diuresis. The characteristic smoky urine soon appears. Sometimes so much blood appears that one doubts whether a nephritis can account for it. The urine contains albumin long after it has become free of blood. Casts of all kinds may be found and the pus cells present indicate an active inflammatory process in the kidneys. The moderate edema present is due to the capillary injury and to poor elimination of salt and water. Secondary anemia is due to loss of blood and to the infection. Blood-pressure is increased at some stage of the disease. There is often a moderate nitrogen retention as evidenced by the increased non-protein nitrogen of the blood above the normal which is about 25-35 mg. per 100 c.c. Uremia may occur in severe cases. The symptoms of uremia are headache, nausea, vomiting, muscular twitching, convulsions and lastly coma. Uremia is not necessarily fatal.

Treatment—In the acute stage the treatment is by diet and appropriate nursing. The radical treatment of the causative infection such as tonsil and adenoid removal and sinus drainage must be postponed until the convalescent stage. Diet ranks first in importance. Milk (800 to 1000 c.c.) is given every twenty-four hours. This is done until the case has been thoroughly studied. Milk is used for several reasons. Using milk the diet can be easily measured. The animal protein corresponds more nearly to the body protein and is more easily assimilated than vegetable protein. With milk one can meet the protein requirements of the body but not the caloric requirements. One quart of milk contains about 35 gms. of protein but only about 650 calories. The caloric deficit is made up in carbohydrate. This carbohydrate may be given as orange juice, grape juice, or lemonade with added lactose or cane sugar.

The total fluid intake is not restricted but on the contrary is liberal, even though there is a moderate edema. It is thought that in acute hemorrhagic nephritis the dilution of urine is advisable both to cut down the work of concentration and to dilute the toxins to be excreted.

Rest in bed is quite important. It cuts down the metabolism, prevents exposure and thus in-

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creases the rest for the kidney. It is well to keep the patient in bed until the hematuria has stopped. As long as the urine shows albumin or casts, marked physical activity should be prohibited.

As the hematuria clears the diet must be increased. As can easily be noted the diet outlined would be monotonous. Also it has a low salt and iron content and its protein is at the lower limit. The guides used in determining the dietary increase are the hematuria and the non-protein nitrogen of the blood. When the hematuria is decreasing and the non-protein nitrogen approaches normal additional food may be given. Well cooked cereal is added first. Bread and salt free butter, corn syrup, ice cream and cream may be given a little later. Vegetables are added as soon as possible although clinical experience has shown that it is unwise to give the vegetable proteins early in acute hemorrhagic nephritis. An egg a day may be added early but meat must not be given in the early or convalescent stages.

Exacerbations of the hematuria may occur at any time during convalescence and are due either to a recrudescence of the infection or to too much protein in the diet. An increase of the hematuria should be treated by bed rest and decreasing the protein intake to a minimum. In those cases where there is no indication of active infection, that is, when the temperature, white blood count, pulse and respiration are normal, a "sugar day" is of value. Theoretically this is to relieve the kidney of as much work as possible. In a "sugar day" five grams of cane sugar for each pound of body weight is given in thirty-two to forty-eight ounces of fruit juices and water. The patient takes as much of this as he wants but nothing else. This may be continued for two to three days and when infection is inactive a lasting diminution of the hematuria often follows. A procedure of some value is to give enough sodium bicarbonate to keep the urine just alkaline. One must remember that there is danger of alkalosis when the kidney function is much impaired.

When the hematuria has cleared or is at a minimum and the infection is inactive, tonsil- and adenoidectomy should be done. It is best to wait about three weeks after all signs of acute infection in the throat have disappeared.

Drugs are of little or no value in the treatment of hemorrhagic nephritis. No drug known has any effect on the causative infection or on the lesions of the kidney. The purine diuretics may be harmful and cathartics are not indicated.

The following is a brief report of a typical case.

M. D., aged nine years, entered the hospital with the history that eleven days after an acute sore throat swelling about eyes and of the lower extremities appeared and she became drowsy. She had vomited occasionally and the urine was smoky. These symptoms persisted and ten days after the edema was noted she entered the hospital. On examination there was moderate general edema, tonsils and adenoids were large and infected. The lymph nodes in the anterior and posterior triangles of the neck were enlarged and there was x-ray evidence of maxillary sinusitis. The proximal limbs of the nail bed capillaries were irregularly contracted while the distal limbs were dilated and tortuous. The blood-pressure was 158/102. (Normal 105 to 115 systolic).

The urine showed gross blood, a few granular casts and a large amount of albumin. Blood chemical examination showed non-protein nitrogen to be sixty-six milligrams per 100 c.c. (normal 25-35), carbon dioxide content was forty-nine volumes per cent (normal 50-60), sodium chloride was six hundred milligrams per 100 c.c. (normal 575) and the serum protein was 6.1 per cent (normal 7 to 9).

She was given a milk and fruit juice diet and after about a week the hematuria began to diminish. After about three weeks her diet had been slightly increased. On account of x-ray evidence of infection, the maxillary antra were irrigated. The antral washings returned clear. The hematuria and edema persisted although less than on admission. The blood chemical findings returned to normal. One month after admission tonsils and adenoids were removed. For two days there was an increase of the edema and hematuria. Within two weeks the edema disappeared and the urine became and remained normal.

PARENCHYMATOUS OR TUBULAR NEPHRITIS (NEPHROSIS)

Parenchymatous nephritis, often called nephrosis, is frequently seen in the more or less acute stage in children. Recoveries have been known but more often this condition becomes chronic. Parenchymatous nephritis has as outstanding features intense edema and albuminuria.

Etiology—The cause is a chronic infection, usually by hemolytic staphylococci localized in the para-nasal sinuses. This infection causes a general intoxication of the whole body, particularly affecting the salt and water balance. That the nasal sinus infection is causative is borne out by the fact that the edema and albuminuria disappear completely only after adequate drainage of the infected foci and that recurrence of the infection brings back the symptoms.

It is not known just how the intoxication causes the edema and albuminuria. Clausen has demonstrated an alcohol soluble, water insoluble toxin in the blood and urine of these cases. This

toxin is believed to be responsible for alteration in the permeability of the vessels including those in the kidney. Clausen also demonstrated that this toxic substance disappears from blood and urine on recovery from the disease.

Symptoms and Findings—The onset of this disease is insidious, usually following an upper respiratory infection. The edema gradually increases and is more intense and generalized than in acute hemorrhagic nephritis. The loose tissues about the eyes and genitalia become distended with fluid. Fluid accumulates in the peritoneal and sometimes in the pleural cavities. The edema obscures the emaciation which increases rapidly and exaggerates the severe anemia and pallor which is present.

Gastrointestinal upsets are frequent. Uremia does not occur but dullness, headache and irritability do occur and these pseudo-uremic findings are probably due to cerebral edema.

Due to the loss of large amounts of body protein there is a rapid nutritional failure, a progressive anemia and a marked decrease of resistance to infections, especially those of the respiratory tract and skin.

The blood-pressure, eye grounds and capillaries are normal. The phenolsulphonephthalein functional test is normal. The Mosenenthal test cannot be applied in the presence of edema.

The urine is scanty, contains large amounts of albumin (10-15 gms. daily), numerous casts, many pus cells, occasionally microscopic red cells, and is often free of chlorides. The blood chemically shows a normal non-protein nitrogen, a chloride content below normal and often below the renal threshold, a low surface tension, a low blood protein and a lipemia.

Prognosis and Pathology—The prognosis is not favorable. Mild cases may go on for years showing an increase of symptoms following infections. Some recover spontaneously. Most of the deaths are due to inter-current infections to which these patients are so highly susceptible. Most common among these infections are streptococcic and pneumococcic peritonitis and pneumonia.

At autopsy a large white kidney is found. Microscopically the changes are confined to tubular degeneration in the early cases, with moderate interstitial round cell infiltration in late cases. The hemorrhagic lesions typical of glomerular nephritis are not found. These pathological findings serve to differentiate it from glomerular nephritis as well as from other types of tubular degeneration such as those due to poisons, diphtheria toxin, etc.

Treatment—The treatment consists in (1) removing the causative infection, (2) giving a diet to restore the lost body protein, and (3) therapy directed toward special symptoms and findings such as edema, pseudo-uremia, skin infections, etc.

The focus of infection must be given adequate drainage to relieve the edema and albuminuria. Unfortunately it is not always possible to completely remove the infection but this is the only method of treatment which will bring more than a symptomatic or temporary improvement. On account of the dangers of streptococcic and pneumococcic infections, nasal operations should be cautious. Ward infections, fever or sore throats all contraindicate operation. Local antiseptics to the nose are of little value. Nasal douches of Sluder's solution (0.75 per cent sodium bicarbonate and 0.75 per cent sodium chloride) or an oil of rose compound spray may be used to shrink the nasal mucosa giving better temporary drainage. Recently ephedrine sulphate solution one per cent has been used for the same purpose. Nasal irrigations of 10 per cent glucose seem valuable in promoting sinus drainage. Few cases will respond to medical treatment but the results of surgical treatment are sometimes amazing.

The diet should have a high protein and high caloric content. It should have a low salt content until the edema begins to disappear. The diet should have 1.25 to 1.75 grams of protein and 25 to 40 calories for each pound of body weight. Since the object is to replace animal protein the diet should include milk, eggs, salt free cheese, casein and meat rather than vegetable or cereal protein. Fruits, vegetables, syrup and cereals can be used for carbohydrate. Fat does not seem harmful. Fluid should be restricted only in the most obstinate cases. It is well to give some cod liver oil since it seems to increase resistance to infection. A high protein diet does not aggravate the symptoms.

Edema itself must sometimes be treated. Peritoneal or pleural effusions may have to be tapped. Eliminative treatment by sweating and diuresis is ineffective while infection persists and is often not needed when infection subsides. Purgation causes the loss of considerable part of the diet, usually without effect on the edema. Purine diuretics are sometimes quite effective in the absence of fever and active infection. Their action is chiefly on the salt and water balance between the blood and tissues. Cerebral edema with pseudo-uremic symptoms often responds well to small doses of theobromine sodium salicylate or

to intravenous injections of hypertonic (20 to 50 per cent) glucose solution.

Transfusion of whole blood which is indicated for the anemia and the low blood protein is no doubt of great value in increasing resistance to infection.

It must be remembered that regulation of diet, sweating, purging, diuresis and transfusion are methods of treatment which are not capable of producing permanent improvement. Recovery after such treatment must be attributed to the spontaneous eradication of the causative infection.

The following case report is given to show the results that may be attained and the problems that may be met in the treatment of this disease.

T. R., seven years old, was admitted to the hospital, complaining of "kidney trouble". At the age of one month he had adenoid trouble. At the age of three years he had a severe tonsillitis, being ill for six weeks. A month after recovery tonsils and adenoids were removed. Then he was healthy until thirteen months before admission to the hospital. At that time the parents noted a puffiness about the boy's eyes. Urine contained albumin and one week after onset the ankles and abdomen became swollen.

Two months later there was a recurrence of edema with no other complaints. This edema disappeared in a month. He had several infections but seemed gradually improving until he developed measles. He was sick about four days and then the urine which had persistently shown albumin became normal and the boy seemed well.

Six months later the patient had a mild sore throat with no urinary disturbance. About two months after this he was taken to another hospital on account of stupor. He complained of headache and had a moderate generalized edema. This edema increased in two weeks so his abdomen had to be tapped. There was much vomiting and almost an anuria.

On admission to the hospital he was pale and had a moderate generalized edema. The nose and throat gave evidence of a chronic pan-sinusitis. The posterior cervical glands were moderately enlarged. Blood chemistry showed a normal non-protein nitrogen with slightly low serum protein, surface tension and serum chloride. The phenolsulphonephthalein excretion was 56 per cent in two hours. The urine showed three plus albumin.

Medical treatment by nasal irrigations and mercurochrome instillation was not followed by improvement. Sixteen days after admission the maxillary antra were irrigated and a transfusion was given. There was improvement for a time and then the edema increased. Three weeks later the maxillary antra were opened without any improvement.

The edema became worse. After a lapse of three weeks a radical operation on the sphenoid and the ethmoid sinuses was done. For several days the patient was in critical condition, then he began to void increased amounts of urine and in two weeks lost eighteen pounds in weight. He improved rapidly as the edema disappeared. The urine contained only a faint trace of albumin. He was discharged three and one-half months after admission. The patient was readmitted after three months with a recurrence of the edema. Had been well for six weeks after discharge when he contracted bronchitis with a gradual return of symptoms. The maxillary windows were enlarged. Five days later a bilateral otitis media developed. He was transfused and his condition was only fair. Two liters of fluid were removed from the abdomen. Two months after the second admission a radical operation was done on the sphenoid, ethmoid, frontal and maxillary sinuses on the right side. He stood the operation well. After two weeks the same operation was done on the left side. Two days later the temperature rose and he complained of abdominal pain. Within five days he died of a streptococcic septicemia and peritonitis.

SUMMARY

1. Acute hemorrhagic nephritis is a systemic disorder usually caused by a streptococcic infection localized in the tonsils and adenoids. It is characterized by hematuria, hypertension, nitrogen retention, impaired kidney function and moderate edema. Pathologically there are typical capillary changes over the whole body with renal glomerular lesions. The treatment in the acute stage is by diet and careful nursing, leaving the eradication of the foci of infection until late in the convalescent stage. The prognosis is good.

2. Parenchymatous nephritis or nephrosis is a widespread systemic disorder usually due to focal infection with hemolytic staphylococci most often localized in the paranasal sinuses. This disease is characterized by intense edema, albuminuria, nutritional failure, anemia, low resistance to infection, normal blood-pressure, scanty urine, normal phenolsulphonephthalein output, normal non-protein nitrogen, with low serum protein, chlorides, surface tension and a lipemia. The treatment consists in eradication of the foci of infection and in giving a high protein and a high caloric diet. The prognosis is unfavorable because of the difficulty in eliminating the foci of infection and the frequent recurrence of infections.

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ALKALOSIS*

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Alkalosis, like acidosis, is not a disease entity in itself but it is the name given to a definite group of symptoms which occur usually as a complication to some other pathological condition. We hear of the term "acidosis" frequently, and perhaps too often it is diagnosed, but alkalosis seems to be more often overlooked when its recognition would be of benefit to the doctor as well as to the patient.

In this paper no effort will be made to go into the technical aspect of alkalosis. It will simply be the endeavor of the author to explain the symptoms and treatment of this condition in what is hoped to be an easily understandable manner.

First of all, what is alkalosis or an increase in the alkali reaction of the body? The acid base equilibrium which is constantly maintained in the human organism is dependent on many variables. These are the concentrations of the carbonic acid, the sodium bicarbonate, the Ph., the oxygen, the oxyhemoglobin and the plasma chloride of the blood. When the normal relation of these constituents is disturbed either above or below normal, there will be a production of some abnormal symptoms in the body. The alkali reserve which is always present becomes increased above the normal and we have the resulting condition of alkalosis.

Clinically speaking, alkalosis is either an alkali excess in the tissues of the body or a carbon dioxide deficit. This condition may be brought about by any of the following:

1. The ingestion of large quantities of alkali.
2. A decrease in the carbon dioxide so that it is below the normal.
3. The loss of hydrochloric acid from the body.

The increase of alkali present in the body can either be absolute or relative. The absolute increase in the amount of alkali in the body comes from, or is the result of, ingestion of alkali and other organic salts beyond that amount which the body can normally neutralize and excrete. The relative alkalosis is that which accompanies a rapid or an excessive loss of the acid radicals and the body is unable to adequately make up for this loss. The acid radicals, especially carbon dioxide, can be lost from the lungs by over ventilation. This is produced by deep and rapid breathing which can be brought on voluntarily or by some abnormal process such as immersion into hot

water or carbon monoxide poisoning. It is also true that the acid radical can be lost from the stomach, that is, the hydrochloric acid normally present in gastric content may be lost due to continued vomiting. From this last statement it may be questioned why patients with carcinoma of the stomach or pernicious anemia, in whom we find an absence of hydrochloric acid in the stomach, do not develop alkalosis. The reason probably is that the condition of an absence of hydrochloric acid in the stomach in these cases comes on gradually and the human organism becomes adjusted to this loss and is still able to maintain its normal equilibrium. In diseases of the gastrointestinal tract such as pyloric obstruction or high intestinal obstruction, strangulation of a diaphragmatic or ventral hernia as well as cases of acute gastritis there may be frequent vomiting over a short period of time with such a rapid loss of hydrochloric acid that an alkalosis is produced. The vomiting due to brain lesions as well as toxemias of pregnancy may also bring on the same results.

An alkali excess in the body which develops as a result of giving sodium bicarbonate by mouth or intravenously or following long, continued use of sodium citrate, sodium acetate or sodium bicarbonate, as well as sodium salicylate, when these are used in hyperacidity, gastric ulcer or duodenal ulcer and in rheumatic fever, may bring on the above described condition.

At this point a word of warning may not be out of place. Just at present we hear, especially from representatives from the drug houses, of the tremendous value of giving alkalies in large quantities for practically all complaints. Effervescent alkalies are heralded as a cure-all for most diseases. If we listen to their line of reasoning without stopping to think of our patient, as well as normal physiology, it would be easy to administer too much alkali and have our patient, if not in an alkalosis proper, on the verge of an alkalosis at all times. I do not mean to discourage the use of alkalies, but I do feel that at the present time alkalies are often given and, perhaps, harmfully in cases where they are not indicated.

The loss of carbon dioxide from the lungs may be produced by voluntary increase in the rapidity of respiration. It may be caused by an anoxic dyspnea which can be the result of a lessened oxygen supply, or due to the failure of the blood to carry oxygen normally as occurs in the early hours of carbon monoxide poisoning. The elevation of body temperature by its immersion into hot water will also produce a hyperpnea with a resulting loss in carbon dioxide. It has also been shown that raising of body temperature due to

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fever of long continued diseases may cause the patient to develop and show, clinically, this condition of alkalosis. Fright may cause mild symptoms of the same type.

Regardless of the cause, whether it be due to an increased alkali intake, a loss of hydrochloric acid or an increased loss in carbon dioxide from the lungs, the results are the same and we have the symptoms of alkalosis in a varying degree produced. The symptoms caused by alkalosis are practically identical with those of tetany and are as follows:

1. Vomiting, usually over a prolonged period.
2. There is numbness of the extremities which is usually felt especially in the finger tips as well as in the lower extremities.
3. There is tingling of the fingers, quivering of the eyelids and a tenseness of the facial muscles.
4. The fingers become flexed at the metacarpophalangeal joint in a characteristic way and the patient's arms may suddenly go into spasm.
5. Decreased, irregular, shallow breathing with periods of apnea and perhaps cyanosis.
6. Trousseau's sign which consists in the production of a tetanic convulsion of the hand brought on by pressure on the nerve trunks in the internal bicipital groove.
7. Chvostek's sign which on a slight tapping or stroking in front of the auditory canal or over the malar bone or further along the branches of the seventh nerve causes a sudden clonic contraction of the muscles of the face. This can also be brought out in marked cases.
8. The patient becomes apathetic.
9. There is an increased motor irritability of the galvanic current.
10. Later there are convulsions, coma, and if not treated, death.

The laboratory findings reveal a urine that is alkaline but it may also contain acetone bodies so that the finding of acetone in the urine should not always lead to the diagnosis of acidosis. The carbon dioxide content of the blood is increased. The Ph of the blood is also increased above normal, being as high as 7.5 to 7.8 (7.4 is considered as the upper limits of normal). When there is an excess of alkali the carbon dioxide of the alveolar air is increased, but when due to carbon dioxide deficiency, then the carbon dioxide of the alveolar air is decreased below the normal. In some cases there has been reported a decrease in the blood chlorides with some elevation of the nitrogen products above their normal. If the gastric juice is tested, it may or may not show a

complete absence of hydrochloric acid, dependent on the cause of the alkalosis.

While there are many theories as to the production of symptoms, a satisfactory explanation has not yet been determined. During acute, clinical fevers the acid base equilibrium is stretched toward the alkaline side. One theory has been expounded that the alkalosis is due to an anoxemia of the blood.

THE TREATMENT OF ALKALOSIS

The first essential is to control the vomiting which is usually a marked feature. If there is an intestinal obstruction, this should be relieved by operative procedure. In cases which have been receiving large doses of alkali by mouth, the alkali should be stopped immediately. There should be absolute rest in bed. Intravenous injections of 0.822 per cent solution of ammonium chloride have been given. This tends to produce an acidosis. Solutions of this fluid have been tested and it has been shown that it will not produce hemolysis of the blood. Large quantities of saline intravenously and subcutaneously and the use of ammonium chloride by mouth are also of some benefit. Large doses of dilute hydrochloric acid given by mouth or by rectum seem to alleviate the alkalosis. Gamble and Ross found that in giving ammonium chloride the lowered calcium content was not raised. When ammonium chloride is given there is increased metabolism of hydrochloric acid which causes a lowering of the bicarbonate and an increase in the hydrogen ion concentration in the plasma, both of which go to produce an increased ionization of the calcium. As a result an adequate concentration of ionized calcium is obtained even though there is a total lowered calcium content in the blood. The therapeutic action of calcium chloride and hydrochloric acid in tetany is in this respect identical with that of ammonium chloride, but also the ingestion of these drugs causes an increase in the total calcium in the plasma. Theoretically, then, calcium and hydrochloric acid are more efficient than ammonium chloride given alone. If the alkalosis has been caused due to an increased loss of carbon dioxide the inhalation of 10 per cent carbon dioxide with 90 per cent oxygen can be given over periods of five or ten minutes each in order to bring the carbon dioxide relationship back to normal.

Due to the fact that the symptoms are practically identical with tetany, in addition to the above treatment parathyroid hormone has been given subcutaneously in some cases with apparently some benefit.

CONCLUSIONS

1. Alkalosis produces a definite group of symptoms including vomiting, numbness and tingling in the extremities, decreased and shallow breathing, increased irritability of the nerves and patient becomes very apathetic. In the late stages there may be convulsions and death.

2. The laboratory findings of an alkaline urine with a carbon dioxide content of the blood above normal and an increase in the Ph of the blood will help to confirm the diagnosis.

3. Treatment which will relieve the excess condition of alkali in the body tissues includes the discontinuance of any alkali by mouth, the giving of large quantities of saline and supplying hydrochloric acid or carbon dioxide to the body, depending on the loss of which of these produced the alkalosis.

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TETANY, A COMPLICATION OF THYROID SURGERY*

ROBERT H. LOTT, M.D., Carroll

In 1835, Raynard¹ observed that complete thyroid removal in dogs resulted in death. We know now that this must have been due to the removal of the parathyroid glands. The parathyroids were discovered by Sandstroen² in 1880, but not until 1891 as the result of Gley's³ work have they been recognized as of a vital nature and that the nervous syndrome noticed in thyroidectomized dogs was due to the loss of the parathyroids rather than of the thyroid. Complete thyroparathyroidectomy in sheep does not produce the same symptoms as in the dog, cat, or rat. This fact has caused some observers to believe that the parathyroids are not essential to life in all mammals.

To explain the symptoms following parathyroidectomy, two theories or schools of thought have arisen; one, the calcium theory, the other, the toxic theory. Loeb⁴ showed that muscular twitchings were produced if the calcium was precipitated from the body tissues or fluids, also that the irritability of the brain to electrical stimulation was decreased by the application of calcium solutions, while substances which precipitated the calcium as oxalates or citrates produced an increased irritability. MacCallum and Voegtlen,⁵ 1909, showed that after parathyroidectomy in dogs, the blood calcium fell and when it dropped to 50 per cent of normal, tetany occurred. They also showed that the administration of calcium, whether subcutaneous, intravenous, or by stomach, would relieve the tetany. The adherents of the calcium theory hold that the parathyroids function as an organ of internal secretion and that the effect of this internal secretion is in some way directed towards the control of calcium metabolism. The fact that tetany can be induced by various experimental means, all affecting the available calcium supply of the body, supports and strengthens the calcium theory of the parathyroid function.

In 1913, Kock⁶ discovered methyl guanidine in the urine of parathyroidectomized dogs suffering from tetany. Later, 1915, Paton, Findlay, and Burns,⁷ with salts of guanidine, produced in the cat, dog, and rat, symptoms indistinguishable from those of tetany following parathyroidectomy.

These experiments gave rise to the toxic theory of the parathyroid function. According to this theory, the gland functions as a detoxicator, detoxicating and rendering inert, toxic substances of the nature of guanidine which may arise in the normal metabolism of protein.

Luckhardt and Rosenbloom,⁸ 1921, kept parathyroidectomized animals alive with Ringer's solution; when the calcium was withdrawn corresponding to Locke's solution, the treatment was not nearly as efficacious. In 1923, Luckhardt and Goldberg,⁹ proved that parathyroidectomized animals could be kept alive indefinitely by giving 1.5 gms. of calcium lactate per kilo of animal weight every twenty-four hours, the animals showing no signs of tetany even when fed a diet rich in meat. The calcium usually could be reduced as time passed.

Up until 1925, grafting of parathyroids was the most conclusive evidence that an essential internal secretion was elaborated by the parathyroids. Post-operative tetany in man had been relieved by parathyroid grafts. Munroe,¹⁰ 1923,

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reported a case of post-operative tetany much benefited by the transplantation of human parathyroids from a ten year old boy who had accidentally been killed. The glands were transplanted subpectorally four hours after death of the boy. Lahey¹¹ recently has recommended the careful examination of all thyroid tissue removed at operation and the immediate re-implantation of any parathyroid bodies into the body of the sternomastoid muscle. He feels that their reimplantation is of considerable value.

In March, 1925, J. B. Collip¹² introduced his parathyroid hormone which prevented or controlled parathyroid tetany and regulated, within normal limits, the level of blood calcium. This hormone was an extract prepared from the parathyroids of oxen. He was able, with this extract, to control or prevent tetany in parathyroidectomized dogs, by subcutaneous injections of the hormone at proper intervals of time. One or two treatments per day were usually sufficient. A close parallelism between the calcium content of the blood serum and the clinical condition of the experimental animals was observed. Coincident with the observed improvement in the animals, there was a rise in the blood serum calcium. Overdose effects were observed which paralleled a hypercalcemia. The symptoms of hypercalcemia in the dog are: vomiting, apathy, drowsiness, coma and a failing circulation. Oral, subcutaneous, or intravenous routes of administration were effectual.

Later, Collip investigated the effect of this parathyroid hormone on normal animals. He found that overdose effects could not be produced in normal dogs by oral administration. The extract was acted upon by pepsin and trypsin. If the extract was given subcutaneously or intravenously a hypercalcemia resulted ending in death if allowed to persist. In this condition the blood urea and non-protein nitrogen rises to enormous amounts and the blood viscosity is so great at death that the red cells cannot be separated from the serum. The reaction of the normal dog is identical to the parathyroidectomized dog. The function of this hormone is to mobilize the calcium in the blood. This indicated that the hormone might be of use in clinical practice in those cases where the blood calcium was low.

In November, 1925, Snell,¹³ of the Rochester Clinic, reported a case of post-operative tetany treated with Collip's extract. In his case the administration of calcium lactate would relieve the symptoms of tetany but the blood calcium would not rise. However, a daily rise in blood calcium was noted when the Collip's parathyroid extract

was given. Subjective improvement was marked; the patient's restlessness and excitability decreased and Chvostek's sign was elicited only with difficulty. It was soon discovered that the blood calcium could not be maintained at the normal level unless calcium lactate was also administered, nor could the blood calcium be maintained at normal level by use of the calcium salt alone. The combined treatment of calcium and the parathyroid extract easily sufficed to attain and maintain a normal blood calcium and coincidentally to cause the disappearance of all the signs and symptoms of tetany. In May, 1927, Richter and Zimmerman¹⁴ reported the use of Collip's serum in three cases of tetany with immediate relief in each instance.

The incidence of tetany as a complication following thyroidectomy is not so rare. The incidence is on the increase and seems to parallel more and more the radical excision of thyroid tissue. Lahey¹⁴, 1921, in 342 operations, reports two cases; Van Eiselsberg,¹⁴ in 2,588 operations, reports six fatal cases of tetany; eight severe and twenty-four mild; Fahrmi¹⁵ had one case of tetany in 600 thyroidectomies; Rabinowitch, two cases of tetany in 114 thyroidectomies. The blood calcium was lowered in both of his cases. No portion of parathyroid tissue could be found in the thyroid tissue removed. He believed the lowered blood calcium was due to trauma and interference of the blood supply of the parathyroid. Brodersin,¹⁷ in 647 thyroidectomies, had five cases of tetany. Two were transitory, one persisted for one year. Two were persistent, though the disease could be controlled by calcium. Richter and Zimmerman,¹⁴ in 174 thyroidectomies, had two cases of post-operative tetany, an incidence of 1.15 per cent which seems to be about the general average. They also examined 100 consecutive cases operated upon for goiter and found evidence of latent tetany as measured by the presence of a positive Chvostek's or Trousseau's reaction, or both. They believed that this latent post-operative tetany was due to parathyroid damage and that this occurs more frequently than is usually supposed. The treatment of post-operative tetany has already been indicated. Prophylaxis consists in prevention of injury to the glands or of their removal during thyroidectomy. The details of this procedure are not here considered.

Active treatment has followed two main principles: the relief of symptoms and the replacement of lost tissues. Since the publication of MacCallum's⁵ work in 1909, above mentioned, the administration of calcium salts has consti-

tuted the most uniformly effective remedy in the control of tetanic conditions. Large doses must be used as proved by Luckhardt and Goldberg.⁹ All symptomatic treatment strives to tide the patient over the acute stage of parathyroid insufficiency until the body has adapted itself to the loss or has regenerated new parathyroid tissue. In experimental animals, four to six weeks usually sufficed for the organism to recover from tetany following complete extirpation of the parathyroids.

Replacement therapy has consisted of the giving of the desiccated gland and extracts. The oral administration of the gland substance has been of no avail. The data given concerning Collip's extract indicates that with this extract we have a specific for the treatment of parathyroid insufficiency. Obviously, the difficulty in obtaining parathyroids for transplantation prohibits this form of treatment. However, several men report gratifying results from such procedure. The diet should be rich in calcium and large quantities of water should be taken.

In conclusion, the following case is reported:

Mrs. E., age thirty-three, seen first, July 16, 1926. For several years the patient has complained of nervousness, dyspnea and palpitation. She was a thin, nervous woman with a distinct tremor, eyes not especially prominent; pulse rate 90 to 140. There was a diffuse thyroid enlargement. Blood and urine normal; weight 113; basal rate 78+; Wassermann negative. With bed rest and Lugol's administration she improved materially, the basal rate dropping to 47+ and the pulse remaining in the nineties. On August 6, 1926, the date set for operation, she became exceedingly nervous and her pulse rose to 160 to 180 when she was taken to the operating room. The operation was postponed. After this she had vomiting, tachycardia, subcuticular rash, a troublesome pruritis and slight diarrhea. August 8, 1926, she was taken home and put to bed where she remained seven weeks. Lugol's was continued and weekly basal rates taken. It dropped from 90+ to 40— where it became stationary. Her pulse remained between 90 and 120 but of a good quality. She entered the hospital October 28, 1926, and had her thyroidectomy under local anesthesia November 2, 1926. The pathological report by Dr. Hansman of Iowa City was hyperplasia of the thyroid. Her post-operative recovery was uneventful and she left the hospital nine days later with a pulse rate between 80 and 90. Lugol's was continued six weeks.

About January 10, 1927, the patient contracted a rather severe cold and she noticed a return of her nervousness, palpitation, and an enlargement in the left side of the neck. Her basal rate, January 19, 1927, was 35+. Because her previous symptoms seemed to be rapidly returning she entered the hospital January 26, 1927, and on January 29, 1927,

under local anesthesia, practically all of the thyroid tissue of the left side was removed. Nothing was done to the right lobe. The patient again made a rapid and excellent recovery, leaving the hospital on ninth day with a pulse rate between 80 and 90.

During March, April, May, June, and July, 1927, the patient was well. The disease seemed to be absolutely controlled. Her basal rate, July 7, 1927, was 6+ and her weight 128½, a gain of about fifteen pounds. However, during the latter part of July and August she again had a return of her symptoms. She consulted another surgeon who advised the removal of more thyroid tissue. Under rest and iodine her basal rate was 50+. September 8, 1927, she had her third operation, which was done under local anesthesia supplemented by gas. The portion of lobe in left side was found to be larger than in right in spite of the fact that we had taken what was considered practically all of the left lobe at second operation. On the second day following the operation she became restless, dyspneic, and complained of queer sensations throughout whole body and of an "internal shakiness", muscular twitchings; and the typical accoucheur hand was noted. The administration of calcium lactate gave definite objective and subjective improvement. On September 16, eight days after operation, the calcium was supplemented by Collip's parathormone. Within twenty-four hours there was a definite clinical improvement. She remained well until the last week of October, when she became restless, complained of numbness and twitching in extremities, twitching of the face, periods of sweating, and finally, upon the day of admission to the hospital, November 8, 1927, she had a typical epileptiform convulsion. These symptoms rapidly disappeared with the administration of Collip's parathormone, calcium chloride 5 per cent intravenously in normal salt, and glucose 5 per cent subcutaneously.

Since November we have kept her tetany under control by giving calcium in large doses supplemented by Collip's parathormone. We have been cautious with the Collip's extract fearing the danger of hypercalcemia, the symptoms of which, in the human being, so far as we know, have not yet been observed. Since December her blood calcium determinations have varied from 3.45 mgm. of calcium per 100 c.c. of blood to 10.8 mgm. With a low blood calcium reading she has the signs of tetany, and coincidentally with the rise of blood calcium the symptoms disappear. It is our observation that the patient is maintained symptom-free easiest, by combining calcium and Collip's extract. We have tried both remedies separately, but clinically the results are not as satisfactory.

Since April, larger doses of both calcium and extract have been required to control her tetany. In fact, during April, she had five convulsions.

The hyperthyroidism was completely controlled by the third operation. She has never had a return of her former palpitation and tachycardia. She has

often said that the nervousness and weakness which she has complained of since September, 1927, is entirely different from her former nervousness and weakness. What the final outcome will be we cannot say. The prognosis evidently, is not good.

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Discussion

Dr. John B. Synhorst, Des Moines—In analyzing tetany I like to divide the condition into the acute, and chronic or latent forms. I believe tetany is a much more common condition than any of us would imagine, unless we are looking for it, both before and after operation. It is common before an operation, particularly in the adenomatous type of goiter, where we have large cysts, or adenomas with distortion taking place. From the appearance of this distortion one could imagine that there might be a disturbance of the parathyroids, due to the interference of the blood or nerve supply. Some institutions have checked up on their thyroid cases

both before and after operation, with the surprising result that many show positive signs for tetany before operative procedure. To diagnose tetany in its mild form is a difficult task. Reliance is placed principally on the Erb sign. Acute tetany is far more common than the latent or chronic form; v. Eiselberg found that approximately 23 per cent of his cases had positive signs of tetany following surgery. Grossman has recently reported evidence of tetany in about 30 per cent of postoperative cases. In regard to the cause of tetany, I do not think there is any doubt but what it is due to a disturbance of parathyroid function. As to how the function is disturbed is not definitely known. However, it is probable that the acute tetany is caused by interference with the blood or nerve supply, rather than their removal. The reason for thinking so is because the condition seems to be only a transient affair, and the feeding of calcium will tide the patient over without any outward results. The chronic or latent cases such as Dr. Lott has reported we cannot think of as being due to circulatory disturbances. This condition may be due to the removal of the parathyroids. However, it is well to remember that these are not constant in position or number, and therefore it might be a difficult task to remove them all even if we tried. The condition may be better explained by the formation of scar tissue. There is a close relationship between the calcium of the blood and the function of the parathyroids. We know that in cases of tetany we are able to show lowering of the calcium content of the blood. I think it was Dr. McVicar who demonstrated that if the ratio of potassium and sodium salts of the blood to that of calcium and magnesium, which is approximately 30 to 1, becomes greater, we can expect tetany. This holds true for any type of tetany, as the tetany that may occur from rickets or prolonged diarrheas. As a postoperative complication tetany is an interesting condition commonly overlooked, and not a serious complication, particularly in the acute form. Chronic cases are very rare as compared with the acute cases. the treatment consisted in administration of calcium with immediate complete relief. In chronic tetany we have a far more serious condition, and one more difficult to correct. Treatment must be carried over a longer period of time. Unfortunately the human is not like the dog in that respect. If in a parathyroidectomized dog, the animal is carried over for a period of a few weeks by means of parathyroid extract, the animal will remain practically normal by the feeding of calcium, but in the human calcium is not sufficiently potent to cause the tetany to disappear. Dr. Lott has quite thoroughly discussed the parathyroid hormone, citing the case reported by Snell. Jackson has reported cases of chronic tetany, with good results after carrying out this treatment over a period of six months to a year. I think it was Lahey who reported some work on parathyroid transplants. The great difficulty is that we cannot always detect parathyroid tissue. In

some cases lymph glands were mistaken for parathyroids and transplanted. Arnold Jackson has recently reported the use of the violet ray. He treated one case with violet ray over a period of time, and as long as he continued to administer the ray the patient would remain normal. This treatment is comparatively new and no doubt requires further investigation.

SALPINGITIS—DIAGNOSIS AND TREATMENT*

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Salpingitis is usually due to one of three bacteria as exciting cause and these are: bacillus tuberculosis, streptococcus and gonococcus. Tubercular salpingitis is comparatively rare occurring probably not oftener than twice in a hundred cases, and usually not diagnosed preoperatively. Salpingitis caused by the streptococcus is usually subsequent to parturition or to abortion. Gonorrheal salpingitis follows contamination or marriage.

Tubercular salpingitis is diagnosed by exclusion from the two more common types through the history and clinical course. If after two months in bed the fever accompanying a salpingitis persists one should suspect tubercular infection.

Acute salpingitis of either streptococcal or gonorrheal origin gives the symptoms of any acute local inflammation. For direct diagnosis one has but to elicit a careful history, to note the increased pulse rate, the elevation of temperature, palpate the tender and somewhat rigid lower abdomen and upon vaginal examination note the exquisite tenderness in the fornices or in one or both adnexae. Upon inspection a purulent discharge may be observed issuing from the cervix, while both Bartholin's and Skene's glands may show evidence of infection. The laboratory report will show a persistent high leucocyte count, usually above 14,000 and the smears will show pus cells with perhaps gonococci or other bacteria.

The two conditions most frequently confused with acute salpingitis are acute appendicitis and tubal abortion. It is of great importance to make a correct differential diagnosis because the earliest possible surgery is to be recommended in the latter two cases, while the latest possible surgery is ideal for the acute salpingitis with some rare exceptions.

The clinical history is of the prime significance in both instances. In appendicitis the onset shows disturbance of the gastrointestinal tract. The pain is usually first noted in the epigastric area. The subsequent tenderness and rigidity is most marked over the affected organ. The sensation of the skin over McBurney's point is increased. The temperature and the leucocyte count are not likely to run so high as in acute salpingitis.

In tubal abortion we must again emphasize the onset which is here usually quite characteristic. Excepting the circulatory ones the symptoms are principally local, fever is usually absent, leucocytosis fluctuating. The pain is soon centered in the true pelvis. The lower abdomen will be only moderately rigid or tender. There may be a bluish colored ring about the umbilicus. Vaginal examination is likely to be very unsatisfactory, but the enlarged and softened uterus together with the doughy sensation of free blood in the pelvis is ordinarily sufficient.

In old or chronic salpingitis the diagnosis is much easier. Definite pathology has developed in such a way that the Fallopian tubes have become thickened and distended. Because of their weight they lie in the most dependent portion of the pelvis unless bolstered up by peritoneal adhesions. If of streptococcal origin the contents will be purulent and often foul smelling due to secondary infection by bacillus coli or staphylococcus. They may contain live virulent bacteria, for the streptococcus may live for as long as two years in these tubes. The adhesions with neighboring viscera are apt to be quite dense. If of gonorrheal origin the tubal content may be purulent or watery. To find live gonococci would be a rarity, for it has been proven through many series of examinations that the gonococci are all dead within a short time, in fact, usually as short a period as two weeks and rarely later than twelve weeks. The adhesions in these gonorrheal tubes are usually far less firm than where streptococcal or mixed infection exists.

The patients suffering from this condition date their troubles as a rule from a child-birth, sometimes an abortion and occasionally will actually give a history of an acute gonococcal infection. Their chief symptoms are entirely local and just what one would expect from the pathology. Because of intestinal adhesions tympany is common. Because of ovarian involvement menorrhagia is frequent. Pelvic pain is always present in varying degrees and is usually aggravated by the congestion of menstruation, by constipation and by hard work. Backache is, I believe, the next

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most persisting symptom and this is, doubtless, due to the local peritonitis over the sacral nerves. Sterility is, of course, the rule.

Because of the absence of much tenderness and rigidity, palpation in these chronic salpingitides is facile excepting obese cases. The uterus which is first felt in bi-manual examination is frequently more or less fixed by either masses or adhesions. Moving it in any direction is usually moderately painful. Either posteriorly or in the adnexal regions the distended tubes will be felt as masses with varying degrees of consistency, tenderness and mobility. In streptococcal salpingitis usually the entire length of the tube, including the interstitial part, is involved. In the gonorrheal tubes usually the distal end is involved. Few patients, however, have abdominal walls so thin and relaxed that one can make this differentiation. It is enough, I think, to be able to definitely determine the existing gross pathology. Nevertheless it is well for one's own satisfaction to differentiate between other conditions such as ovarian cyst, fibroids and intestinal tumors but an error in this differentiation would not be fraught with much consequence. It is well to remember that tumors which increase rapidly in size are suggestive of twisted pedicles and those which vary in size and consistency are apt to be of intestinal origin.

In the treatment of acute salpingitis we must ever keep in mind that we are treating the generative organs of a child-bearing individual and that if they be removed her chief function in life will be destroyed. Because of this fact the very best treatment must be practiced. It has been mentioned before that the gonococci die in the tubes. Statistics show that the mortality in gonorrheal salpingitis is extremely light. Some 15 per cent achieve spontaneous permanent cures. In one clinic 12 per cent of those cured subsequently became pregnant. Practically every large clinic at present has shown much improved results without operative interference.

There are, nevertheless, some who still advocate early operation, probably because they themselves get good results and little reck the ensuing sterility. An early operation must mean radical surgery because what else is there to do but extirpation of the tubes. It is true that some have suggested slitting and draining them but this seems like preparing the field for ectopic pregnancies and I doubt if many would sponsor it. In any case operation in the acute stage means radical surgery and while it is true that a large percentage of the patients so treated will survive their ultimate usefulness will be much lessened.

The chief indication for operation in the acute stage is when the operator thinks the condition is something else and in this case the wisest procedure is to leave the acutely inflamed tubes alone. It is true that there are some few instances of post-partum or post-abortive salpingitis in which the temperature and blood count fail to drop and the patient's life is threatened, where one is justified in operating. These, however, are rare.

The treatment of acute salpingitis then is medical and chiefly symptomatic. Of greatest importance is the rest in bed and this happens to be the most difficult to enforce. These patients should be in bed during the stage of fever and for at least two weeks following. No medicinal treatment is usually necessary. Fluids should be pushed and the lower bowel kept empty preferably by enemata or mild laxatives. Either ice caps or hot fomentations may be used on the abdomen. Vaginal douches should be frequent, copious and hot.

In convalescing from the acute state the patient is up and about in gradually increasing periods but she must stay in bed during her catamenia as this is the time when exacerbations are likely. Hot vaginal douches are kept up but they need not be so frequent. Tampons now are of great assistance as they will assist in immobilizing the pelvic organs if closely packed behind the cervix. Any movements likely to disturb the pelvic organs are barred and of course coitus is interdicted.

When the stage of chronicity arrives, and this is in a large percentage of cases, one must resort to palliative measures or surgical interference. Many patients get along fairly well with their spells of rests and their douches. Diathermy has been demonstrated as being very helpful in this stage. If, however, tender masses such as pyo- or hydro-salpinges exist, these patients are semi-invalids and their only certain relief is through operation. These operations are fairly safe if the surgeon is cautious enough to wait until his patients have cooled off from their original inflammatory reactions and he be not too radical in his surgery. This waiting implies no danger, for the mortality of unoperated salpingitis is very low and pus tubes seldom rupture. The time to wait in streptococcal infection is two years when possible and at least three months in gonorrheal. It is very essential for real safety that the pulse and temperature be nearly normal and no marked increase in the leucocyte count.

The operation of choice is naturally a laparotomy but as there are some instances where a

colpotomy is advisable I shall say just a word or two about it. This simple but useful procedure should be reserved for those cases where a fluctuating mass can be felt close to the vaginal vault and the least possible surgery is warranted. In performing this operation it is essential to open as much of the suppurating organs as possible and to maintain free drainage for a long period.

In performing the laparotomy the surgery should be dependent upon the amount of pathology. If tubercular the tubes are removed. If the condition is of gonorrheal origin enucleation of the mass following the lines of cleavage is nearly always practical if one is patient. These tubes should be completely excised. Salpingostomies are not satisfactory and likely to do more harm than good. If the ovaries are much diseased it is better to ablate than resect them, but of course, in certain selected cases resection is advisable.

In chronic streptococcal salpingitis the adhesions are likely to be very dense. Enucleation may be very difficult but should be performed if it can be done without too much tearing of tissue. It is dangerous to expose large areas of bleeding surface. It is safer to evacuate the suppurating mass and drain leaving the adherent tissue in situ. This may not completely cure the patient but on the other hand it is better than to risk the patient's life merely to perform a more finished operation. In removing the tubes one should incise well into the uterine horns for the interstitial portions are likely to be involved. Unless there is some special indication the uterus is not removed because the good that might come from it is not so great as the added danger.

In closing, I wish to emphasize that the large clinics are obtaining much better results with conservative treatment. How much better it is then for those of us who work on a small scale to follow in this safer path. Allow the surgery to be delayed as long as possible and when delay is no longer a virtue, let it be as radical as permissible.

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Discussion

Dr. Ralph E. Keyser, Marshalltown—Just a word concerning appendicitis complicating cases of salpingitis. Appendicitis complicating, or secondary to salpingitis, is different from the ordinary case of appendicitis in which there is obstruction of the appendix, or occlusion of the vessels, with the resulting perforation, or gangrene. This is not the case with appendicitis secondary to salpingitis. Why? Because the appendix is attached from without, usually the tip only being involved by reason of adherence to an exudate around the inflammatory area in the pelvis. Most of these cases subside; therefore, if you keep this in mind very few cases of appendicitis secondary to salpingitis will demand operation. Please do not forget that I mean appendicitis secondary to salpingitis, not the ordinary type of acute appendicitis. Dr. Jepson has conveyed to us a very important message embodying as it does a conservative plan of treatment in these cases. I cannot emphasize this too forcibly, for we should be conservative in the treatment of these cases of salpingitis. In regard to prophylaxis in gonorrhea in women, if we can prevent salpingitis in these cases it is the ideal method of procedure. However, this is not always possible. For social and financial reasons these people will not submit to the treatment, but if a woman with acute gonorrhea can be placed in bed and put on the ordinary plan of treatment, complications will be prevented very frequently. Unfortunately many of these people cannot undergo this treatment, but, where possible, it is the ideal plan. We should not prescribe vaginal douches for acute gonorrhea in the early process of the disease. It has a tendency to produce salpingitis. A remarkable fact is that 50 per cent of these cases have a symptomatic cure. Of the remaining 50 per cent, 25 per cent do not have sufficient symptoms to warrant surgical interference, while the remaining 25 per cent do have symptoms that demand surgery. Therefore, in the gonococcal type of salpingitis, the expectant and conservative plan of treatment is necessary, and if the individual who has gonococcal salpingitis never has a secondary infection, ninety times out of one hundred, the primary infection will not produce symptoms if treated conservatively. That is not true in the streptococcal type of infection. The streptococcal type of infection of the tube is only a part of the general infective process, therefore we have certain indications for operation in these cases. But they should be treated expectantly, and if abscess develops it can be drained, usually through the vagina. If necessary an abdominal

incision can be made, and if a suction apparatus is used there is no danger of breaking into an abdominal abscess in these cases and soiling the peritoneum. The suction apparatus is very fine in this class of cases. We have prominent surgeons all over the world who are performing radical operations on these cases early. What does that mean? Just as Dr. Jepson has said—It is a radical procedure that should not be employed. It is all wrong, and if I can convey to you one message that I want you to carry away it is this: Treat these cases the same as you would have your wife or sister treated.

Dr. Jepson (closing)—I want to thank Dr. Keyser for agreeing with me as to conservative treatment. In considering this subject there is one analogy we should recall, and that is that salpingitis is very similar to epididymitis, and certainly if we treat one conservatively the other likewise should be so treated. Personally, I do not see how hot douches can do harm in salpingitis. When the patient is quiet the hot irrigations do no more than wash out the purulent material, and relieve pain. It is the being up and about with much activation that is so detrimental.

WHAT A WHOLE TIME HEALTH DEPARTMENT COULD MEAN TO A COUNTY

J. F. ALDRICH, M.D., Shenandoah

It is sometimes a very difficult matter to know what subject to bring before this kind of a body, for there are so many various factors or angles of interest in a group of physicians working in almost every specialty. However I am going to venture to call your attention to the public health angle, hoping to hold your thought on what I consider a very great subject.

I feel that you are all here for a definite purpose, and your very presence manifests the realization of your responsibility to your respective community in guarding its health.

The county or community in Iowa that will step out and found a full time health department will be charted at once by the United States Public Health Service and by the Rockefeller Foundation as one classed high above the average, a community that is keeping step with the progress of the world. And from these two sources much assistance and support may be expected. It will have shown that it is not satisfied with the methods of our predecessors, that a spirit of progress is in the air, and that a sense of responsibility to its children cannot be of too high consideration.

Self-preservation is the first law of nature. This service might be termed Applied Christianity as was taught by the Master in His work along the

Sea of Galilee. We are not only protecting ourselves but giving to our children the benefits derived from experience, and from the great scientific discoveries that have been made during the last two decades; and we are conscious of the fact that these benefits are indirectly of value to the adult of the community, but of an inestimable direct value to the children. A healthy childhood and youth is the greatest asset that any community or commonwealth can boast.

A community which has a health unit is building for future generations. There is a spirit of unselfishness and there is a grandness in this attitude of mind which words fail to describe. It is a living monument of self sacrifice and the manifestation of the highest ideals that can exist in any people.

Any community that is willing to deprive itself or even make a small sacrifice which is necessary for a health unit is a community which in the truest sense of the word is building sure foundations for prosperity and for happiness, not only for the present but for future generations to come.

It is an epoch in the history of any community when it declares war against disease and when that community undertakes to bring up its children in an environment and under circumstances which are the most favorable to produce a race, sound in body and in mind.

With these two assets, no one can calculate what that individual can accomplish in after life. Allow me to go into the more specific details and take up the subject from a medical and social viewpoint.

Sanitation and prevention have today become a separate and distinct branch of medicine. A county health unit has to do principally with keeping the community well. This means preventing diseases which are contagious or communicable from inflicting their ravages upon the community at large. If we take for instance the medical aspect of prevention we will very quickly come to realize the fact that many of the diseases which we treat in adult life would never have occurred if proper hygienic methods had been used in the homes and in the communities; or if the child had been protected against contagious diseases, which we have felt for so long were necessary or inevitable.

We have all heard that the best thing was to let a child have the "measles", to let the child have the "whooping cough" and "chicken-pox". Even today many parents tell you and me that they would rather their children would have these diseases before they start in school. This you all

know is a fallacy and a very dangerous attitude of mind for the public to maintain. No disease strengthens an individual, no disease gives an individual an immunity against another disease. All diseases cause damage, direct or indirect, to the human body.

We are very careful with our new automobiles not to run them over twenty-five miles an hour for the first 500 miles. Why should we be so careful with an engine that is made of metal to "break them in" and be so reckless with the human mechanism, in allowing it to receive all the jolts, all the strains and whatever else may happen to the tissues of the body that are so susceptible to changes and to damage? It is not logical, and sometimes we think that to be illogical is a normal characteristic of the human mind.

Have you ever heard this phrase: "Let them sow their wild oats, they are young". As much as to say that because an individual is immature, gives him an immunity against the damage that follows disease.

I know there are some who will say that it is not the business of the county to spend this money. That it is up to the practicing physician and his individual clientele. In the first place, if the physician is capable of doing this work, he is also so busy with his practice that he cannot give the proper time to look after the sanitation and preventive methods necessary to cope with an epidemic. Second, it has only been very recently that we have had special departments in our medical schools for training men in this work, because we found that the average physician had to be specially trained for what we call "epidemiology".

Let me illustrate with a history that might be repeated in any community. A child is brought to your office who has not eaten for say three days and has been ailing for six days. On close examination of the child, the throat is found full of membrane, both tonsils (and they are large) are covered with this membrane which extends also down the throat as far as you can see. A smear is taken and a culture made with the verdict that the child has diphtheria, which, of course, is suspected we hope by any examiner. The health officer is notified and the child given auto-anti-toxin.

Then the health officer's duty is to find out the contacts with this patient, to have them removed from school, isolated and immunized. To do this a well organized health department can complete the job in far less time by having everything ready to act immediately in an emergency of this nature.

Another thing that we have sometimes overlooked and this is the enforcement of these laws of quarantine. That is a difficult problem, and unless a community knows that a health department is going to enforce them and has the means by which they may be supervised to do so, but the public is not inclined to obey the restrictions, and will violate them to their own detriment as well as that of others.

This gives rise to another question that I am sorry to say exists in the minds of many physicians, and that is some physicians fear that the department will diminish their practice. The health department may save the physician making an unnecessary call, and most frequently these calls are never remunerated.

Health departments never treat the patients. By reducing contacts, there may be fewer cases, but the medical profession should strive in every way possible and by every means available to combat disease and to prevent it.

For centuries the profession has been aware of the fact that many diseases run a normal course and the most a physician can do is prevent complications, relieve some of the suffering and strengthen the patient till a successful outcome of the disease.

During the last quarter of a century the discoveries made in medical science have enabled us to stamp out small-pox, typhoid fever, yellow fever, scarlet fever, diphtheria, and even in a large measure to check the dread infantile paralysis. Wherever the proper means have been employed either in sanitation, immunization or of prophylaxis these diseases have been checked.

Small-pox has destroyed its millions; typhoid fever likewise; and cholera, a similar history. Syphilis has destroyed empires but now the means by which these scourges can be checked is common property of the medical profession. Is it not just and proper that the profession should urge the public to avail themselves of these means of prevention of disease? Think too of the hundreds of thousands who have impaired eyesight because of lack in the past of protection of the infant from ophthalmia neonatorum from an infected mother.

What is the medical profession for? To cure the sick, you say. This answer is partly correct because medicine has changed its attitude toward disease in the last twenty-five years. Therefore the profession must change its attitude. We must prevent disease wherever possible as well as treat diseases when they appear in the individual.

What about the financial side, you ask, what will it mean to a community in dollars and cents?

It takes but a few minutes of argument before the proper board when the question of testing of cows for tuberculosis is up, to have the necessary amount appropriated to have this work done and losses assured. What about our children who might contract measles, whooping cough, or diphtheria and some die? The majority get well, but these diseases leave the child with a lowered vitality and with a damaged system, and thus impairing their usefulness and preventing their making a financial position in society.

This instance in which animals were recognized as of more value than the human being is not new. Individuals and organizations will contribute liberally also to a fund for a political campaign, that would go in hysterics if taxes were raised to make better schools and better children.

Knowledge is wealth, but what is knowledge when we have not a healthy community (alive to its responsibilities) made up of men and women with strong bodies and healthy minds?

Some may say that we have gotten along all right thus far and need no change. I ask the question—have we gotten along all right, or as well as we might, and can we keep on in the way we are going? Do large enterprises locate in communities which are not healthy; which are not law abiding and which do not believe in progress? Communities without churches never thrive and eventually die. The maintaining of a high standard of efficiency in the work of prevention of disease means the centering of the best elements of society.

Show the state and the world that we are determined to keep pace with the discoveries and advancements that are being made use of in other sections of the country and we will have wealth and enterprise knocking at our doors such as we had never dreamed of. Communities get what they want and what they deserve if their enterprise and alertness is made known. We need not deplore our hard lot and wring our hands and worry if other communities forge ahead when it is our own backwardness and ignorance that causes it. Of course we have county farm agents, county school superintendents, and why not county health units or supervisors? The road sign says "We love our children—drive slow". Make it—"Because we love our children we are determined to make them the best possible".

We are proud of the history of our state, and we have reason to be, but we must remember to keep the name that we hold among the states of the union. To do this we must keep pace with the progress and with the development of the

commercial and scientific means that other states are availing themselves of. We have all that any other state has to attain the greatest prosperity.

How much we put into life and how much we get out of life depends upon our health and the health of those we love and the community we live in.

Presumably, communities cannot fruitfully cooperate in every matter, but in preventing disease their interests are inevitably linked by the fact that bacteria and the carriers of bacteria as mosquitoes, mice, rats and man pass freely across every conceivable barrier in this age of autos and zeppelins. One man's poison may be another man's meat, but all men's parasites are remarkably cosmopolitan, and spread their blight without respect of creed, color, or previous condition.

Russia, the United States, and Mexico, although outside the League of Nations are too much concerned to stay out of vigilant activities of the League's Health Committee.

The International Health Board of the Rockefeller Foundation has provided much of the money expended by this committee in its world wide projects in recent years.

From a wireless station at Singapore, since March, 1925, there has been broadcast the health conditions of thirty-five ports in twelve neighboring countries. These reports are cabled weekly by code to Geneva where they are combined with other reports. The French in Algiers have begun an active independent collection and broadcast of information concerning yellow fever, plague, sleeping sickness and meningitis. With all the information in the world on influenza and infantile paralysis we are still left helpless and unable to defend, as we know not whence they came.

Health officers are now of value in many fields of preventive medicine such as (1) vaccination of the people at large against small-pox, typhoid, diphtheria, scarlet fever, many tropical diseases and possibly tuberculosis; (2) campaigns against infant mortality and for child hygiene, through school nurses and doctors, and general school hygiene; (3) industrial medicine and industrial hygiene; (4) campaigns against tuberculosis, malaria, venereal diseases, diabetes and cancer; (5) production and distribution of pure milk, water supplies, etc. Different countries have specialized in one or more of these special fields.

Once accustomed to help each other in these matters it will be easier for nations to agree and harder to quarrel about the other problems which have hitherto led to war.

Prevention and peace.

UNUNITED FRACTURES OF THE TIBIA
ETIOLOGY AND TREATMENT**Review of Thirty-Six Cases*

HOWARD L. BEYE, M.D., Iowa City

Ununited fractures of the shaft of the tibia have been sent to the University Hospital for treatment more frequently than any other ununited fracture, not excepting that of the femoral neck. Why should a fracture of the tibia fail to unite so commonly?

In reviewing these thirty-six instances of ununited fracture (there were thirty-five patients, one having a bilateral involvement), it was a striking fact that many of the causes frequently given as being responsible for the failure of union of fractures, played very little, if any, role in this group.

The general condition of the patient, with very few exceptions, was good. Only one had a positive Wassermann test and he had no clinical evidence of lues. One patient had a mild diabetes and a third an inoperable cancer of the stomach. Age certainly was an insignificant factor, only two patients being over fifty years of age, while over half of the patients were under thirty, or in a period of life when osteogenesis should be active. The site of the fracture seemed to be of no significance, the middle and lower thirds being about equally represented. There were none in the upper third, however. In no case was there a neoplasm or other bone disease at the site of fracture. With the exception of the frequently associated fracture of the neighboring fibula, only three patients suffered from fractures of other bones, all of which united adequately.

In only five instances was the tibia alone fractured. In thirty-one cases the associated fibula was also fractured and yet in all but two of these the fibula had united solidly. The two exceptions to this striking rule were in patients who had received fractures of both bones of the leg during infancy, and in each the treatment had been grossly inadequate.

Compounding of the fracture took place in twenty—slightly over half of the cases, and yet most of these escaped any evidence whatever of infection. To offset this, five simple fractures were converted into compound fractures by the use of metal plate fixation and, incidentally, infection took place in all five. Upon admission to the University Hospital only nine of the thirty-six cases were infected, two still retaining metal

plates. It would seem, therefore, that compounding of the fracture may play a distinct part in the failure of the fracture to unite but that infection plays only a relatively minor role.

Deformity was striking by its absence. In most of the cases the line of fracture was transverse or slightly oblique and in thirty-three the alignment was remarkably good with the fragment ends in contact. In only three, therefore, was the deformity so marked that it could have been a decided factor in non-union.

The original treatment of the fracture was clearly inadequate in twelve instances in that immobilization was incomplete. In these, cast or splint was used extending only to the knee, violating the fundamental principle that in a shaft fracture, the joint above and the joint below the fracture line must be included in the immobilization. In seven other cases immobilization was discarded too soon—before union could have been adequately established. It is also of significance that five cases were operated upon and metal plate fixation used. In twenty-four of the thirty-six cases, therefore, the treatment was such that conditions were not provided or maintained which were satisfactory for the establishment of union.

Analysis of Etiology—A broad analysis of the causes for failure of union in these cases would lead to the following conclusions: that the tibia normally has a somewhat limited power of osteogenesis is quite probable; that this osteogenetic reaction is distinctly less in evidence when the fracture line is transverse, the alignment of the fragments is good and there is consequently a limited periosteal injury; that when the fracture is compound, the consequent loss of blood from the wound removes one of the potent stimuli to osteogenesis; that one of the most important causes for non-union is failure to treat the fracture on a fundamentally sound basis.

Treatment—In the consideration of treatment of ununited fractures of any bone, differentiation must be made between delayed union and a true non-union. In the former group osteogenesis is sluggish or limited in amount but still potentially of such amount or character that solid union may ultimately take place. In the developed cases of non-union, on the other hand, repair of the fracture is at a standstill with either no union whatever in the fracture line or a fibrous union, or a false joint. To distinguish between these two groups one is guided by the length of time which has elapsed since the fracture, the degree of motion present in the fracture line on manipulation and the x-ray evidence.

*From the Department of Surgery, College of Medicine, University of Iowa.

Delayed union of the tibia is best treated conservatively. Very active deep massage to the entire extremity tends to combat the atrophy of disuse of the soft tissues, stimulate the blood supply and incidently, osteogenesis. A judicious use of function as a stimulus to bone formation is of the greatest value. In most cases this is best carried out by some form of splinting which protects the extremity, allows the patient to bear his weight upon it, and yet can be removed for massage. Active movement for a graduated period each day without the splint will also be of great value.

Such a line of treatment should be continued for many weeks in a given case, or until it becomes quite clear that union is not to be obtained. In this series of thirty-six cases of ununited fracture, five were considered to be delayed union and under the treatment outlined above, bony union was obtained in four. One patient will have to have operative treatment.

Non-union of the tibia is best treated by a sliding bone graft. If the patient has had an infection at the site of fracture, a grafting operation should not be performed until the wound has been entirely healed for at least six months. Following the successful take of such a graft, there is produced a considerable osteogenetic reaction in and around the fracture line with a solid substantial bony union as an end result. Attempts to obtain union by merely freshening the bone ends or using bone chip grafts to be laid into the line of fracture will fail too frequently to recommend such procedures.

Eliminating the five cases of delayed union and the nine cases which were grossly infected upon entering the hospital, there remained twenty-two to be treated primarily for non-union. Two patients did not stay for treatment and one submitted to amputation because of a very marked deformity and scarring of the soft tissues. Sixteen were treated by sliding graft with solid bony union in fourteen. One of recent date has been lost track of but from his progress following operation it is fair to assume that he will have bony union also. Following operation it is important that adequate immobilization be maintained over a sufficient length of time to insure a secure bony fusion between grafts and host. If this is not done, the grafts may become absorbed and the fracture fail to unite. In one case of the sixteen immobilization was not continued sufficiently long and an early soft callus was partially absorbed. Following this solidification has been greatly delayed but eventual solid union seems assured.

Two boys, aged five and nine respectively, who had suffered fractures in infancy, might better have been treated by amputation immediately because of the extreme under-development of the extremity. Each was treated by massive graft transplant taken from the opposite tibia. In each the transplant seems to be living as an entity several years after operation, but has not united to the host bone and the results must be classified as failures.

One patient was treated by freshening the bone ends and placing small osteoperiosteal chips in the fracture line. This result is classified as fair. There is definitely greater stability than before operation, but certainly not a solid bony union. In this patient a positive Wassermann reaction was obtained.

In infected ununited fractures of the tibia treatment must be directed toward the infection. Upon eliminating this, union of the fracture will not infrequently follow without further treatment.

Of the nine infected cases, two had metal plates. Upon removing the plate and eliminating the local infection, bony union took place in one case. The other patient has only recently been operated upon and the result is not yet established. Of the seven infected cases without metal plates, one was not treated. Three of the remaining six were treated by amputation. Two obtained solid bony union following extensive operations to eliminate the infection and the third, recently operated upon, is apparently to have a similar satisfactory result.

SUMMARY OF TREATMENT

Distinction must be made between delayed union and non-union.

Delayed union will commonly progress to solid bony union with treatment aimed at stimulating osteogenesis. The basis for such treatment is a proper balance between support and functional use of the extremity, and massage.

Non-union of the tibia without infection is best treated by a sliding bone graft and the results are excellent.

Non-union with infection should be treated to eliminate the infection. Union may then follow. If there is no union six months after all evidence of infection has cleared up, then a sliding bone graft operation should be considered.

Amputation may be the treatment of choice in a given case of non-union because of deformity, circulatory changes or infection.

CASE REPORT

GAS BACILLUS INFECTION

A Report of One Case, With Recovery

J. A. WM. JOHNSON, M.D., Newton

The main purpose of this paper will be to acquaint my readers with a disease which is becoming more prevalent in civil life, jeopardizing life and limb; a disease which will add remarkably to the sleepless nights of an already overworked physician or surgeon; a disease that will increase the number of potential suits for malpractice; the disease caused by the bacillus of Welch. This organism was discovered by Welch and Nuttall in 1892.

Etiology—Soil containing the causative bacilli is directly injected into the wound. Foreign bodies, bullets, shell fragment or bits of patient's clothing easily implant the organism. Although found present in nearly all wounds the bacilli do not necessarily gain a footing in the body or produce more than local signs. In places like muscle, the cellular tissue, pleural fluid, hematoma and brain, it appears they can flourish in varying degrees, while in the peritoneum and cavity of joints, though the latter might contain gas, yet, are practically immune.

Sacquepee, a French pathologist, and Kenneth Taylor, an American pathologist, working with the French, advanced a view that the disease was in the main an affection of the muscles. This was later supported by the British observers who pointed out that the disease hardly ever occurred or was but little to be feared except in cases of wounded muscle and of tissues infiltrated with blood. Clinical observation has clearly shown that a defective blood supply is the principal cause of the organism gaining a footing in the body when once they have been introduced into wounds. Such causes of defective blood supply may be (1) death of tissue from violence or injury; (2) inefficient splinting leading to injury of vessels or tissue; (3) constriction of limb or tourniquet bandages, etc.; (4) damning back of discharge by packing introduced into wound or by dressings in which discharges have been allowed to dry and cake; (5) hemorrhage, cold and shock which produce low blood-pressure are also potent factors.

The Process—The accepted mechanism of the infective process has been considered as one fol-

lowing an injury or wound in which dirt, bits of soiled clothing, fragments or bullet or shell carrying the organism, have gained access to the tissues through lacerations, traumatism, fracture, or all three combined. Coincidental cold, shock or hemorrhage hasten the process and the involvement of such tissues as muscle, cellular tissue, pleural fluid, hematoma and brain favor growth. In muscle the process extends longitudinally with ease but finds difficulty in passing transversely from one muscle to another. When the bacilli are introduced rapid multiplication at site of injury gives rise to gaseous infiltration of the healthy tissues with retention of gas and consequent sustained pressure of as high as one and one-half atmosphere or twenty-three pounds. This is extremely destructive to living tissues by sustaining complete anemia of muscle fibers within which the pressure is generated. Actual fragmentation of the individual fibers may take place. The infection spreads throughout the length of the entire muscle group mechanically. The tissues are wrung dry of fluids and gangrene is established by ischemia. Systemic intoxication due to highly toxic by-products of the autolysis of muscle produced by the bacilli overwhelms the patient and death ensues.

Experiments have been done with detoxicated anaerobes injected under the skin of animals. It was found that the bulk of the bacilli undergo lysis and some are taken up by phagocytes and destroyed. The infection is walled off and the bacilli destroyed by normal body defenses, before the production of toxin is possible. The injection of whole cultures with fully developed toxin gives different results—an absence of local protective reaction amounting to paralysis of defense with development of violent gangrene.

In so far as the toxin is rarely found with the bacilli in soil it appeared that some other agent must act in conjunction with the gas bacillus in producing sufficient paralysis of local defenses to permit the bacteria to elaborate toxins. This agent was found to be calcium salts. When these salts were introduced subcutaneously with detoxicated bacteria, a tissue lesion resembling that of toxin was produced, a lesion which permitted the detoxicated bacteria to produce toxin and a rapidly developing gangrene. Examination of various soils showed that calcium salts were present in varying concentrations. A sample of soil autoclaved and made into emulsion elicited gas gangrene from the spores of vibron septique after being filtered autoclaved and tested for sterility. The emulsion gave the same results. This power was lost when the calcium salts were

precipitated by sodium carbonate. The suggestion is made that the calcium from shattered bone provides the material for local defense rupture.

Morbid Anatomy and Symptoms—These are best studied under two heads: (a) group gangrene and (b) segmental gangrene. Under group gangrene we have first, (1) wounded muscle or muscles with blood supply cut off; (2) infection of wounded muscle or muscles with intact blood supply. The disease is a longitudinal one and



extends easily up and down a muscle from end to end. The muscle involved changes color. First appearance is salmon red (stage of red death), gas generates and is visible, muscle becomes friable, color changes to yellow and finally may become black and diffluent. Connective tissue lying in immediate contact with diseased muscle may be little altered. When gas is present in areolar tissue it tends to find a way along main vessels of the limbs. It also escapes into subcutaneous tissues following perforating arteries and often extends far beyond limits of the disease. Muscle with good blood supply shows great resistance to invasion. When invasion does occur it is seen as follows: The surface of the actual wound is dry or dirty looking or black. Next to this is a red area which is limited towards the sound tissue by a yellow sinuous line raised and hard to touch. Next to this lies normal contractile red muscle.

In the segmental gangrene, all or nearly all of the muscles of a segment of a limb distal to a complete arterial lesion, deprived of their blood supply, die or become infected.

Bacteriology—Four organisms mainly responsible.

1. *Bacillus Welchi*. Naked eye changes produced. (a) Yellow edema, sometimes blood stained. (b) Large gas production of short duration. (c) Salmon red color of the muscle. (d) Soft pulpy muscle. (e) Slight sourish smell.

(f) Bronzing of skin. (g) Appearance of fat globules in discharge.

2. *Vibrio Septique*. (a) Blood stained edema. (b) Large gas production. (c) Deep red color of affected muscles. (d) An odor not putrid but rather rancid in character.

3. *Bacillus Edematiens*. (a) Colorless gelatinous edema. (b) Small amount of gas production. (c) Pale pink color. Muscles deep red in heavily infected areas.

4. *Bacillus Sporogenes*. This bacillus may obscure the features of any of the gangrenous types, but is most often associated with *B. Welchi*, owing to the fact that the more rapid vibrio septique and the more toxic bacillus edematiens generally outrun the bacillus sporogenes in heavily mixed infections. The putrid type of gangrene which gets this character from the presence of bacillus sporogenes is generally apparently a twenty-four to forty-eight hour case or longer, and not one of the eight to twenty-four hour type, or galloping ones. *Bacillus sporogenes* does not seem able to start off quite so quickly as bacillus Welchi, *Vibrio*, septique or bacillus edematiens. These anaerobes, originally derived from animal feces are found in all cultivated soils and are a source of infection for wounds contaminated with dirt.

Symptoms—Onset may be acute and constitutional symptoms and gas production present themselves in a few hours. A patient about whom there has been no anxiety at night has been found in extremely dangerous condition in the morning. Early symptoms are pain in the affected parts, feeling of malaise and restlessness, rise in temperature and pulse rate. Vomiting may be an early symptom and later become most distressing. The skin becomes blanched and tense. The area around the wound or even the whole limb becomes tympanitic. As swelling increases, the skin becomes dirty while the veins become prominent. Mottling of the skin is noted. Purple patches appear due to cutting off of blood supply, owing to death of underlying muscles. Finally the skin takes on a greenish hue. It is important to remember that gangrenous muscle may be covered by a normal skin. The fulminating type is exceedingly dangerous. Surgical measures often are of no avail.

Late Symptoms—If the disease is not acute enough to cause death in a short time the skin of the whole body becomes dirty looking and then yellow, the yellow being very noticeable in the white of the eyes. If the case does not progress favorably all the symptoms undergo aggravation. The pulse becomes more rapid, then running.

Vomiting is frequent. The extremities become cold and blue. The body becomes covered with sweat and the temperature falls.

Treatment—Preventive. Avoid all things that tend to restrict the blood supply, whether by tourniquet, tight bandages, inefficient splints, persistence of state of shock. Control shock with heat. Thorough soap and water cleansing of surrounding parts is first done.

When disease has developed treatment is governed by state of patient and extent of gangrene. Patient in good condition can be submitted to operation for eradication of diseased muscle, while in another patient the same amount of disease may demand amputation. Mechanical cleansing and adequate longitudinal incisions is treatment if patient is in good condition. Avoid injury to blood-vessels. Muscles that do not contract or bleed or are altered in color are to be removed. Certain muscles may require to be followed to their attachments. In this way we may save limb at the expense of a group of muscles. Make careful search for and remove all loose bone, foreign bodies, especially bits of clothing and blood clots. Stop bleeding. Pack open wound with moist gauze.

Often in case of fractures of long bones, amputation will be necessary if the patient is in bad condition. Condition of muscle can be investigated through skin incisions and thus level of proposed amputation can be determined. In all amputations it is probably better to leave flaps open or to suture them lightly over gauze. This enables inspection of stump, and renders more easily the excision of muscles sometimes found dead within a few hours of amputation. Serum treatment should be instituted early as possible and should be regarded as aid to surgical rather than as treatment in itself. The serum should be polyvalent with weight thrown on B. Welchii antitoxin. However the French authors uphold the monovalent sera and are probably right in doing so, especially where competent bacteriological diagnosis is available.

Kings County Hospital, Brooklyn, New York, has a method they call debridement of wound described by Dr. Martin Tinker of Ithaca, New York, in 1909. It consists of placing sterile oil into the wound and sterile compresses saturated with olive oil over the wound; then the skin is thoroughly cleansed with tincture of green soap followed by alcohol ether and benzine; and then the skin is painted with iodine. The wound is then cleaned thoroughly with benzine, washing out all the olive oil. The wound is then carefully treated surgically, removing all the macerated and bruised tissue.

Report of Case

J. K., age fifty-four. Male. Married. Farmer. Four children.

Family History—Father died at seventy-seven from paralytic stroke. Mother died at sixty-four from injury. Three brothers living and in good health. Three sisters living—health fair. One of sisters in Mt. Pleasant on account of insanity following operation for sterility, according to patient. No history of cancer or tuberculosis in family.

Previous History—Rugged health since boyhood. Left collar bone broken at age of forty-four. Injection treatment for piles at forty-six. Paraffin treatment for right inguinal hernia at forty-seven years of age. Cut above left eye with tire blowout. Nose broken one year ago while chopping wood. Worked with cattle all his life.

History of Present Condition—On January 9th a pony on which he was riding slipped and fell on patient's left leg, making it impossible for him to walk. He rode horseback to his home about three miles.

Physical examination—Patient five feet nine inches tall. Weight 155 pounds. Poorly nourished. Head dolococephalic. Hair black with scattered gray. Facies intelligent. Character lines marked. Eyes dark and fiery. Wears glasses. Pupils react to light and distance. Ears clean. No discharge. Nose partly obstructed. Mouth clean. Tongue slightly coated. Neck negative for glandular enlargements.

Chest—Normal in shape. Supraclavicular fossa shallow. Intercostal angle acute. Angle of Louis slightly visible. Litten's sign present. Tactile fremitus normal. Normal vesicular breathing throughout. No areas of dullness elicited.

Heart—Cardiac dullness normal in size. Apex beat in fourth interspace and median to nipple line. Heart sounds normal. No murmurs or abnormally accentuated sounds. No arterio-sclerosis.

Abdomen, negative except for paraffin masses in outer end of right inguinal canal.

Reflexes, not obtained in wrist or elbow. Knee reflexes positive. Big toe and plantar reflexes positive.

Extremities, normal except for crepitus of lower left tibia and upper left fibula. Continuity of lower tibia broken. Abnormal motion with much pain. No break in continuity of skin. Discolored area over break.

X-ray diagnosis—Spiral fracture of lower left tibia and comminuted fracture of upper left fibula. (Lower one-third of tibia.)

Progress—January 9. Patient to bed. Leg done up with traction and splint until external appearance and palpation seemed satisfactory.

January 14. X-ray showed wide separation of tibial fragments. Upper end of fibula was fairly satisfactory. Open reduction decided on. Post-fracture swelling nearly gone. Blue discoloration due to injury fading out.

January 16th. Open reduction under ether after preliminary cleansing with iodine and alcohol. Metal

band placed about middle of fracture by means of Lowman's bone holder and Gerster's traction bar and Parham and Martin's bone holder. Blood clots were removed and iodoform drainage in place. Kangaroo tendon was placed around upper end of fibula to hold fragments in position. Patient comfortable until the afternoon of the seventeenth when the bandage was loosened and the patient again made comfortable. At this time there was tingling numbness and a dead feeling according to the patient. This was relieved after change of position and light massage. At 11 o'clock that evening the patient was so comfortable that I remarked to the nurse that I guessed our troubles were over. Pulse was rapid.

January 18, a. m., 8 o'clock. The foot was pale and motionless and stiff. Black area over the break together with a cracking noise upon pressing the skin. Crepitus and subcutaneous gas. Gas bacillus infection. Consultation decided upon. Dr. Wolcott of Des Moines called. High circular amputation decided on and done promptly that afternoon. Patient isolated. Condition good at bedtime. Janu-

ary 19th. KMNO₄ dressings p.r.n. No extension of infection.

January 22nd. Sacral area incised to relieve gas and to allow the removal of dead muscle. KMNO₄ dressings daily to sacral area and stump.

February 5th. External aspect of stump was incised and drained. More dead muscle removed.

Aside from nourishing diet, and attention to bowels, and KMNO₄ dressings there was practically nothing done except to watchfully wait and meet possible emergencies which might arise at any hour.

Patient was discharged February 22, 1928, and dressings done in his home by a trained nurse for one week and by myself after that until healed.

Specimen sent to Dr. Hansman at Iowa City, at time of amputation brought back his diagnosis of bacillus aerogenous capsulatis infection.

The nurse's chart showed the temperature to be 101.4 on January 18th and a pulse of 118. On January 17th pulse was 120 with a temperature of 99. On January 26th the temperature was 103 and the pulse 118. After that a satisfactory convalescence.

STATE HEALTH COMMISSIONER'S PAGE



Henry Albert, M. D.



PREVALENCE OF COMMUNICABLE DISEASES

The most prevalent communicable diseases in the state during the past month have been scarlet fever, smallpox, whooping cough, mumps, and chickenpox. There have also been reported a number of cases of typhoid fever, measles, cerebrospinal meningitis and poliomyelitis.

Scarlet fever more severe—Scarlet fever continues to be the most prevalent communicable disease in the state. Moreover many of the cases are of a more severe type than prevailed several months ago. Quite a number of deaths from scarlet fever have recently been reported. We believe that much more general use of scarlet fever streptococcic antigen (Dick) should be made in the control of this disease. Of the several toxins that serve as immunizing antigens, it appears that the only one that can be depended upon is the one made after the formula of Dick. The very splendid article on "The Control of Scarlet Fever" by Rhoads, which appeared in the last (March, 1929) number of this Journal should be carefully read by every health officer—indeed,

every physician living in a community where scarlet fever prevails. The toxin for prophylaxis and the antitoxin for treatment are among the biologics supplied at cost, through the State Department of Health. A single set consisting of the five doses of immunizing toxin cost \$1.80. The price of the regular therapeutic dose of the antitoxin is \$7.20.

Measles—During the past few weeks there has been some increase in the number of cases of measles. It was only two years ago that we had a very extensive epidemic of this disease. Measles epidemics occur as a rule about every three years and we are accordingly due for another epidemic in 1930. Occasionally the intervening period is as long as four years, sometimes however only two years. This varying period between epidemics is largely dependent on opportunity for intimate contact. For that reason epidemics every two years occur chiefly in the larger cities. With travel becoming more easy and extensive, it is quite likely that from now on, the interval between measles epidemics in Iowa will also be less

than three years. At the present time there are many cases of measles in Illinois. We would accordingly not be at all surprised if we will have something of a measles epidemic in the state sometime this year.

Poliomyelitis—Poliomyelitis (infantile paralysis) appeared in two places—namely, Corydon and Centerville during the past month. There were two deaths.

One of the fatal cases was nursed by an eleven year old girl who belonged to another family. This "nurse girl" contracted the disease. Because of the seriousness of this condition, it is very important that every case be reported as soon as possible and that every reasonable precaution, be taken to prevent its spread. Only adults should be permitted to attend cases.

Rabies—Rabies has made its appearance in several places in the state. A real "scare" occurred in Des Moines and the neighboring town of Valley Junction about the middle of March. Several rabid dogs bit a number of persons.

Fortunately the public generally appreciates that rabies may be prevented by the prophylactic antirabic inoculation ordinarily called the Pasteur treatment. It is, however, more difficult to secure their cooperation in controlling the disease among dogs.

Prophylactic inoculation of dogs not dependable—Some veterinarians have attempted to immunize dogs in general, that is, dogs that have not been bitten by another animal, by giving them a hypodermic injection of a single dose of antirabic vaccine. Experimental evidence has shown that the results are not dependable. It is probably not worth while to attempt such immunization on any general scale since it gives a false sense of security. The old method of destroying all dogs not muzzled, tied up, shut up, or lead by a string or chain continues to be the only effective way of controlling the disease among dogs.

Antirabic treatment—Dog bites should, of course, be thoroughly disinfected as soon as possible. Fuming nitric acid appears to be the best agent.

The only known specific antirabic treatment is vaccination with an attenuated virus. This is ordinarily called the Pasteur Treatment. The attenuation of the virus may be accomplished in several ways. The State Department of Health keeps on hand at all times for distribution at cost, antirabic treatment prepared according to two methods as follows:

1. Pasteur—21 day method—price \$30 preferred in case of bites on the head or neck. This

refers to the original method used by Pasteur and consists of attenuating the virus (spinal cord of infected rabbit) by drying and of its preservation by the use of glycerin.

2. Semple—14 day method—price \$20.25 preferred for ordinary cases. This consists of killing the virus (brain of infected rabbit) with 0.5 per cent phenol.

In both cases the material comes in outfits provided with sterile syringes—ready for hypodermic injection.

For the great majority of cases we recommend the 14 day Semple treatment.

In cases bitten on the head or neck by rabid dogs, particularly when not thoroughly cauterized with fuming nitric acid, a course of treatment consisting of twenty-one doses may be given. While no evidence is available that more than fourteen doses are necessary, the extra doses are suggested as a precautionary measure.

Public health conference—As during the past two years, the Iowa Public Health Association whose membership is composed chiefly of health officers and public health nurses will hold a one day conference on May 7th—the day preceding the meeting of the State Medical Society. The meeting will be held in the Fort Des Moines Hotel—beginning at 9 a. m. Out-of-state participants on the program will be Dr. Earle S. Brown, State Health Commissioner of Kansas and Miss Mildren E. Smith of the National Association for the Prevention of Blindness. All physicians are welcome.

Massage, use of light, etc., by non-licensed persons—The state does not issue special licenses for the practice of massage, hydrotherapy, heliotherapy, etc.

Such work may be done by non-licensed persons on their own initiative so long as it is not done for the treatment of disease. If it is for the treatment of disease, it should be done under the directions of a physician or on patients referred by a physician.

Persons doing this type of work, other than on the basis mentioned above, should be reported to this department.

NEW MEMBERS STATE BOARD OF HEALTH

The following Iowa physicians are newly appointed members of the State Board of Health: H. R. Sugg, M.D., Clinton; Cassius T. Lesan, M.D., Mt. Ayr; H. W. Plummer, M.D., Lime Springs; W. A. Seidler, M.D., Jamica; J. D. Lowry, M.D., Fort Dodge.

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BACTERIOPHAGE

"A great discovery is a fact whose appearance in science gives rise to shining ideas, whose light dispels many obscurities and shows us new paths"—Claude Bernard.

When d'Herelle first published his report of the discovery of a bacteriolytic substance, which he called bacteriophage, little interest was aroused even in the ranks of laboratory investigators. As is frequently the case with real discoveries, the notion seemed fantastic and the substance itself unreal. Scientists were not prepared to accept the existence of a substance whose presence could only be proven by observing its action. In its action it did not follow the established laws known to govern animal or vegetable life. It was not a ferment or enzyme. It was inconceivable that this substance belonged to the category of non-living matter, since under conditions suitable for bacterial growth it increased in amount and activity. It was subject to destruction by heat and underwent changes in specificity depending upon its environment. Could such a substance really exist? Biological science had prepared no place for such a substance, so d'Herelle was looked upon as a dreamer of unreal dreams. Time, the tester of all theory, has proven, however, that d'Herelle's bacteriophage is a reality, and its discovery ranks among the outstanding achievements of this experimental age in medicine.

Biologists have for some time past recognized the existence of bacteriophage, but even in this recognition have looked upon it as a laboratory novelty, a mysterious and useless plaything, suitable only for "laboratory demonstrations". Scientists, while accepting the reality of the bacteriophage phenomenon, have placed little credence in the clinical possibilities of this agency in the treatment of disease. This attitude has no doubt been partly due to the intangible nature of the remedy and partly due to the fact that the earlier attempts to utilize bacteriophage in treatment resulted in numerous failures. Within the past five years considerable evidence has been accumulating to the effect that bacteriophage may be highly useful in the treatment of certain bacterial diseases. Conspicuous among the more recent favorable reports are those presented by Rice and Harvey of the department of bacteriology of the Indiana University School of Medicine. Their first report¹ discussed in a preliminary way their experience with twenty patients. A subsequent report² covered some fifty cases, while their most recent contribution³ reviews their experience with one hundred and fifty cases. These reports are particularly outstanding, since their experience includes a considerable variety of conditions, a modified technique of application, and an almost uniformly satisfactory result obtained. Among the conditions which they treated with their bacteriophages were boils, carbuncles, abscesses, ulcers, acne, urinary infections, impetigo, and osteomyelitis. Almost without exception their results were good—much better, in fact, than could have been expected from any other means now employed in the treatment of like conditions. It is interesting to note further that in a majority of the cases treated, the bacteriophage was applied in the form of a wet dressing or instilled directly into the wound. This method is unusual, but apparently highly effective.

Other investigators for the most part have used the bacteriophage for subcutaneous injections, basing such use upon the similarity of a bacteriophage or a bacteriophage-lysed culture to a vaccine. These investigators further report that whenever possible the bacteriophage was prepared autogenously, but they further conclude from their experience that "stock" preparations, particularly for the staphylococci, are about as useful as those autogenously prepared. A striking phase of the action of bacteriophage apparent from their summary, is that the pain which accompanies these suppurative conditions is relieved with surprising promptness and complete-

ness following the institution of bacteriophage therapy. This observation is confirmed by the reports of other investigators. No untoward results were noted in the entire series reported.

If bacteriophage is to accomplish the tremendous and far-reaching good which such preliminary reports suggest, it then behooves every agency conducted for public welfare to further, so far as possible, the accumulation of accurate data reflecting the true worth of the remedy. It is noteworthy that the Michigan Department of Health⁴ under the direction of Dr. Guy L. Kiefer is assisting in such a program in a very positive way. Feeling as they do that bacteriophage promises to be of great value in the treatment of bacterial disease, they are offering to furnish physicians of their state bacteriophage for clinical use free of charge. They stipulate, however, (1) that the physicians so favored must furnish the department laboratory with bacterial cultures for positive identification, taken from the lesions of the disease treated, and (2) that case records be furnished for analysis covering the course of every case treated. Protected by these control measures, they will be able not only to advance therapeutically the legitimate use of this agent, but prevent in a large measure its ignorant misuse and failures which necessarily would throw discredit upon the procedure. It would seem highly fitting that other states, through their boards of health, should follow the commendable lead of Michigan in furthering this study through the department laboratories. Such a unified effort would, in a very short time, provide sufficient well-controlled and accurately accumulated data upon which an accurate estimate of the usefulness and shortcomings of this very new therapeutic agent may be based.

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SPINAL ANESTHESIA

"New trails are rough, however, and those who follow them must be prepared for the criticism accorded all pioneers."—Evans¹

The accident leading to the discovery of spinal anesthesia occurred in 1885, but the advent of spinal anesthesia as a definite surgical procedure did not occur until 1889 when August Bier, of Bonn, by experiment upon his own person, established the relative safety of the method. Rapid development of a satisfactory technique soon

placed the procedure in the hands of the surgeon and in many of the European clinics and a few American clinics this method is the one of choice in a large majority of surgical operations.

Contrary to the opinion of many, in the hands of the skilled operator spinal anesthesia is a safe procedure. It is true that reports of unfavorable results are to be found in the literature, but in many of these cases the accident may be traced to lack of skill, an improper interpretation of the acceptable technique, or enfeeblement of the patient due to general decrepitude or senility. This latter group is of particular moment, since the only experience which many surgeons have with the procedure is one entirely limited to an occasional attempt to use it when infirmity or age prohibits the use of all other methods.

If, however, we place credence in the results reported from many European clinics and the few American centers having enjoyed any considerable experience with the method, we are forced to believe that the method has great merit and is to be reckoned in skilled hands as one of the safest of anesthetics. Babcock and Boyd, perhaps the two most outstanding figures in the American development of this agency, have each performed over twenty thousand operations with spinal anesthesia. In a recent review Babcock² states, "By 1914 about six thousand injections had been made and twelve patients had died on the operating table while under spinal anesthesia". At that time an analysis of this mortality rate seemed to indicate to Babcock that the height of the rate was due to the use of the methods in many conditions "portending death". It was decided, therefore, to withhold spinal anesthesia from this group, and when his experience was next subjected to analysis in 1924, it was found that in this series not a single death had occurred in the six thousand cases in which this method was used. Certainly results, such as these quoted, when supported by similar and comparable results from other competent observers, cannot fail to convince one that this procedure is not a "surgical curiosity", but a surgical asset.

Much of the earlier work in spinal anesthetics was done with cocaine, later followed by such synthetic substances as beta eucaine, stovaine, tropococaine, apothesine, tutocain, procaine, and novocaine. The newest drug to be advocated is a solution called spinocain introduced by Pitkin. Pitkin³ claims for his new solution, spinocain, all of the advantages of stovaine or novocaine with the added factor of "controllability".

All authorities are agreed that the results obtained depend to a very large extent upon the

skill of the operator. They are agreed, also, that the technique must be exact and well understood, or the procedure may be both dangerous and untrustworthy. To quote from an editorial by Welton⁴ in the *American Journal of Surgery*, "A casual consideration of the subject and a hurried reading of the technique and concomitants may lead one to think it an easy thing to attempt and without danger. Nothing is farther from the truth. Spinal analgesia is not without danger, and it takes practice before one becomes familiar with every detail of the procedure". It might be appropriately stressed further that the physiochemical action of the drug chosen should be well understood in its specific action within the dural canal and all contraindications and complications fully understood and appreciated.

Relative to the scope of usefulness of this anesthetic, there is some disagreement among authors. It would seem that all are in fair agreement that it is desirable in operations in the pelvis, genitourinary tract, rectum and lower extremities. Some think all abdominal and most thoracic surgery possible with this anesthetic, while some (Koster⁵) advise its use for operations upon the head and neck. A few (Cosgrove⁶) advocate its "wider use" in obstetrics. With any new procedure the limits of its usefulness may not bear sharp delineation, and only the test of great experience properly establishes its true usefulness. However, it would appear that this procedure has been sufficiently subjected to critical observation, and that its acceptance is assured. Certainly the enthusiastic reports of those with experience would indicate that the method merits careful investigation by any surgeon whose operative procedures are conducted below the diaphragm.

"Mastery of spinal anesthesia will place in the surgeons' hands the safest, the quickest, and the most satisfactory anesthesia known today for use in a great number of different conditions."—Evans.¹

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MAY DAY—CHILD HEALTH DAY

The election of Herbert Hoover to the presidency of the United States will serve to call especial attention to May Day, as Child Health Day, this year. President Hoover has been the presiding officer of the American Child Health

Association for the past five years. For six years a campaign to focus the interest upon the health of children of the country has been waged in the name of May Day—Child Health Day, and great accomplishments in health promotion have resulted.

Committees directing programs throughout Iowa have been appointed by Edith S. Countryman, May Day chairman for Iowa. Among the cooperative organizations are listed the interest of members of the State Department of Health, Farm Womens Bureau, Iowa Tuberculosis Association, Iowa Federation of Women's Clubs, Iowa Congress of Parents and Teachers, Extension Department for Child Training, Ames State College, State Dental Society, State Medical Society, W. C. T. U., Association of Registered Nurses, Playground Association, and Camp Fire Girls. May Day may be observed by having some special program to emphasize the local health activities, such as the Summer Round-Up, diphtheria immunization and correction of physical defects. It might be possible to have a community or county celebration in which children take an active part. Many of our counties held special play days last year.

This program may be furthered by the local medical society by entertaining a frank discussion of the objective of this movement, formulating plans for the furtherance of free instructive or corrective clinics, the furtherance of sanitary or health laws or any local health problems reflecting the child's health in the community.

In brief, May Day is the day: To evaluate the results of the child health program in your immediate community: To take an inventory of service rendered to children in order to determine the relative effectiveness: To renew the unified interest and action of the child, the parent, the educator, the physician, the dentist, the nurse and the community: To celebrate and portray the year round program, pageant, play, song, parade, speeches and appropriate programs.

WAPELLO SOCIETY COOPERATES IN HEALTH CAMPAIGN

The Wapello County Medical Society cooperated with the Ottumwa Y. M. C. A. in a Health Week Campaign which reached a large number of people in Ottumwa. Seventeen physicians presented a total of fifty-six talks to 14,200 people. Fourteen of these talks were made before school children, sixteen of them before church congregations, and twenty-six were given before various clubs, employees of several large organizations and theatre audiences, as well as several speeches at the Y. M. C. A.

VIENNA NEWS

In their residence, VIII Alserstrasse 21, about nine o'clock last evening, Clemens Pirquet, professor of diseases of children in the medical department of the University of Vienna and his wife, Marie, were found dead in bed. It is the general opinion that this awful tragedy is the culmination of a suicide pact. In sorrow and despair a grief stricken community stands at the bier of one of its greatest sons. Professor Leopold Artzt, dean of the medical faculty, speaks of him as a genius endowed with a remarkable talent for organized scientific work and a superlative sense of civic responsibility. Our ambassador, Mr. Washburn, a warm personal friend of the deceased and associated with him in the various beneficent activities of the Austria America Society gave expression to his feelings as follows: "The tragic end of Professor Pirquet and his wife leaves me shocked and bewildered beyond words. Upon my arrival in Vienna the most important part of his meritorious service in directing American relief work among the thousands of starving Austrian children had already been performed. At the same time the record of his devotion was not forgotten and in the hearts and minds of his countrymen 'his name led all the rest'. It is well known that he took a keen interest in all affairs concerning America. Here also the great value and significance of his scientific discoveries was thoroughly appreciated and admired. Among my countrymen a large circle of genuine friends will mourn his untimely death.

"In grateful appreciation I shall ever remember his efforts on behalf of the Austria America Society, organized to promote, to extend and to intensify friendly relations between his country and mine. Professor Pirquet belonged to that small group of men, unfortunately so rare in all countries, whose life is one continuous, untiring and unselfish public service. Austria and the world will miss him much, this great scholar and noble friend of humanity."

Clemens Pirquet was born in Hirschstetten, one of the suburbs of Vienna, in 1874. He received his general education in this city but was graduated in medicine at the University of Graz in 1900. From 1908 to 1910 he was professor of pediatrics at Johns Hopkins in Baltimore and from 1910 to 1911 he occupied the same position at the University of Breslau, Germany. Since 1911 he has been professor of pediatrics at the University of Vienna and chief of the famous Kinderklinik. He has made this institution renowned throughout the medical world, and it has become a mecca for specialists from all lands.

The following notes on the life and work of

Professor Pirquet are taken from that delightful book "Vienna Yesterday and Today" by Dr. J. Alexander Mahan (second edition), published last year. "He first became familiar to the American public through his services as food commissioner under Hoover during the period following the war. His exceptional knowledge of dietetics, his eminent position in the university, his tireless devotion to the starving children of Vienna and his flu-

ency in the English language all contributed to render him indispensable to the relief commission. Perhaps no other man in the city could have filled his trying position so efficiently, and certainly no other would have been so congenial to the commission.

But it is not in philanthropy alone that he has achieved eminence. He is one of the world's best authorities on tuberculosis in children. He combines theory and practice in a most unusual manner. His investigations of immunity and predisposition to certain diseases, especially tuberculosis, have been original and of great benefit to medical knowledge. They led him into regions where science is still groping its way toward truth. It is known that one attack of smallpox renders an individual immune for life but that pneumonia leaves its victim with a predisposition for the same disease. Yet they are both

DR. Nicholas Schilling of New Hampton, Iowa, has furnished in this article a pen picture of Professor Pirquet, whose death occurred in Vienna on April 30th.

Dr. Pirquet is perhaps best known to the profession for his contribution to our knowledge on the subject of tuberculosis, especially in children, and for the diagnostic test which bears his name.

germ diseases. How can this be? This question is a sample of the mysteries into which Professor Pirquet has delved deeply and brought forth knowledge that has been of the greatest benefit to the human race.

Tuberculosis is fearfully prevalent among the children of Vienna, and, as chief of the largest children's clinic of the city, he has had opportunities for research such as are presented to but few specialists. Long ago he devised what is now considered to be an indispensable serum skin test for tuberculosis in children, the von Pirquet test, and it is in common use among the physicians of all civilized lands. It is simple, almost painless and entirely free from danger.

Nearly all remedies for tuberculosis in children suggested by competent experts, have been investigated and tried by Professor Pirquet in his immense practice. Naturally what he says on the subject has the weight of highest authority. Hence it is interesting to know that he regards no medicine as of much value in the treatment of the disease. He thinks tuberculosis is a nutritional disease and can be best overcome by plenty of wholesome food and pure open air. At the present time he has practically abandoned the use of tuberculin and medicines. Nevertheless his prognosis in this, the most fatal malady of mankind, is more optimistic than ever before.

It must not be inferred from this that Professor Pirquet does not believe the tubercle bacillus to be the primary cause of the disease. He knows that it is, but he also knows that the germs are so widely distributed in all the great cities, that contact with them is unavoidable. They can not be entirely shunned and hence the only hope is to render the body capable of resisting them. In this opinion he is in unison with nearly all authorities.

Since he considers food such an important factor in combating disease it is but natural that he should devote himself to the scientific study of dietetics. To his practical mind the system of computing food values by calories proved too complicated, so he originated a new system based on the nutritive value of one grain of average human milk as a unit. To this unit he gave the name of "N E M", a word derived from the initial letters of the phrase, "Nutritive Element Milk". By much calculation he has determined that the number of nems needed to nourish a child is roughly proportional to its sitting height, by which he means the distance from the bench upon which the child sits, to the top of its head. Another serious fact is that the square of this measurement equals the area of the lining of the

child's alimentary canal and thus represents its capacity to digest and absorb. The determination of this ability is to him of the greatest importance for he means to use it to the utmost.

When he makes a diagnosis of tuberculosis, he does not write a prescription for a pharmacy but for a kitchen. His pharmacist is a trained cook. Five times a day the little patients take their doses of food carefully compounded and prepared in the kitchen of the Children's Hospital. The youngsters must take all that is measured out to them, and are not permitted to leave the table till their plates are clean.

In respect to the nature of food, Professor Pirquet is guided somewhat by the general conditions of the city. The children get only plain rations so as not to spoil their appetites for home cooking when they return to their parents.

Professor Pirquet is convinced that it is an excess of food over and above the actual requirements of the body that enables the child to conquer the germs of disease. Consequently he marshals his food and fresh air against the invading bacteria with all the skill and courage of a Napoleon, and wins a great proportion of his battles.

There is no more interesting or pleasing sight in all Europe than the Pirquet Roof Garden Clinic on the top of the Children's Hospital in Vienna. Here the little ones afflicted with tuberculosis live all the year round, eating proper food, sleeping in the open, having their school in the open and accumulating strength and health. Their only shelter is a roof above their heads and their only protection from cold is plenty of warm covering for their bodies. The winters of Vienna are not mild but the little patients endure the rigors of the climate with smiling faces and cheerful spirits. This Clinic is an inspiration to visitors, and the same may be said of the entire hospital. It is a large sanitary building with clean halls, clean rooms, clean kitchens, clean nurses and clean patients. The whole institution gives the impression of efficiency most agreeably tempered with cheerfulness and good nature. There is none of the harshness toward patients that is so often witnessed in large charity hospitals. Visitors are treated with exceptional courtesy and consideration. One leaves the place with renewed hope and respect for humanity.

Some of Professor Pirquet's writings such as "Allergy" are very technical but they are none the less practical and have proved to be of the greatest benefit to mankind. His work upon "Allergy" had borne practical fruit in recent discoveries that have done much to control such diseases as diphtheria and scarlet fever. The

term, Allergy, was his invention and is now often used in medical literature.

He has written a four volume work on nutrition which is perhaps the best authority on that subject in print. The last volume is devoted to recipes for the kitchen, and tells how to apply the principles set forth in this most elaborate work. The recipes are practical for the public but much of the text is too technical for any one who has not studied medicine. Unfortunately, this work is not published in English.

Professor Pirquet is very patriotic and much interested in all movements calculated to improve the conditions of Austria and the city of Vienna. He is a prominent member of the Austria-America Society which was organized for the purpose of promoting friendly relations between the two republics. He stands very high in the medical faculty, being one of the few professors whose theories and opinions are quite generally accepted by all. He is apparently very fond of America, having made a number of trips to the United States. On these visits he reads papers before societies, and lectures to physicians. Americans also appear to be much interested in Professor Pirquet, for perhaps no member of the medical faculty of Vienna receives more invitations to lecture before American doctors than are sent to him.

He speaks the English language almost as perfectly as German. Of all the renowned professors of the University Professor Pirquet is perhaps the youngest. The world is likely to hear much more from him during the coming years.

The enthusiastic prophecy in regard to the importance of his future work was wholly justified. Two months ago the Berlin Microbiological Society awarded him the Aronsohn prize for his contributions to the subject of "Allergy". Associated with Professor Engel he has recently placed in the hands of the publisher "A Handbook on Tuberculosis of Children". His last great work "The Allergy of Age" was practically completed.

In Zentral Friedhof, in recognition of his distinguished public service, the city of Vienna has dedicated to the memory of Clemens Pirquet an honor grave.

THE YUCATAN MEDICAL EXPEDITION

An expedition which may throw new light upon the Mayan civilization started for Yucatan January 31, 1929, from the Department of Tropical Medicine of the Harvard Medical School and School of Public Health. The immediate purpose of the expedition is to make a medical survey of the population of a section of that country.

The region selected is about Chichen Itza where a famous sacrificial well of the aborigines is situated. There are villages of a mixed population in the neighborhood and others of practically pure-blooded Maya Indians. Little is known of the diseases of these people and it is hoped that the study may throw light upon the causes of the complete collapse of the Maya civilization which followed close upon the Spanish conquest.

The "Yucatan Medical Expedition" will have its headquarters among the ruins of the ancient city at Chichen Itza where, for some years, the Carnegie Foundation has maintained a station for archeological research. Mr. Sylvanus G. Morley, who is now on the ground, has charge of the station and of the archeological work being done there. Mr. A. V. Kidder of Andover made the preliminary arrangements with the Department of Tropical Medicine on behalf of the Foundation.

The personnel of the medical expedition is as follows: George C. Shattuck, M.D., in charge of the expedition; Joseph C. Bequaert, Ph.D., entomologist; and Jack H. Sandground, Sc.D., parasitologist, all of the Department of Tropical Medicine of the School of Public Health; Kenneth Goodner, Ph.D., bacteriologist, of the Department of Bacteriology of the Harvard Medical School, and Mr. Byron L. Bennett, laboratory technician.

PORTLAND INVITES STATE SOCIETY IOWA MEDICAL WOMEN

The following, which will be of interest to all Iowa women physicians, is an extract from a letter received by Dr. Rose Butterfield from her friend, Dr. May L. Barnhart of Portland, Oregon:

"I see by the Bulletin that you are secretary of the Iowa Society. May I, through you, extend greetings to all members of your Society, and especially those who may be in attendance at the meeting here next July. I especially desire to meet the Iowa women while they are here and will be most happy to be of service to them in any way they may desire. Of course if their secretary heads the delegation it will be a much greater pleasure. However, I extend to all Iowa women a hearty welcome for next July."

MUSCATINE COUNTY PROMOTES COORDINATION

Wednesday, March 6 the Muscatine County Medical Society invited to a meeting the county and city superintendents of schools, the school nurse, the public health nurse, the social service worker, the home demonstration agent, and others interested in community health and welfare. The purpose of the meeting was to promote a better understanding of the common problems in the hope that it would lead to closer correlation and to better and more effective health and welfare work in Muscatine county.

D. W. Smouse Gives Des Moines a School For Handicapped Children

Dr. and Mrs. D. W. Smouse of Los Angeles, California, former widely known Des Moines residents, have made a gift of \$250,000 to the Independent School District of Des Moines for erecting a school building especially designed and equipped for crippled and otherwise handicapped children.

The building, to be known as the "D. W. Smouse Opportunity School", will be erected on a tract of land now owned by the school board, at Twenty-eighth and Center streets, Des Moines, adjoining the Callahan Junior High School grounds, which front on Thirty-first street.

The building will be two hundred by seventy feet, according to tentative plans, with a wing at the rear which will house a combined gymnasium and auditorium on the second floor and a cafeteria on the first.

The building will be two stories high, with a department on the roof for open air class rooms and sun baths. One of the special features will be installation of stairways, ramps and an elevator for the use of those physically handicapped children unable to use the stairs.

On the first floor will be located a sight saving class room, a sewing room, a cooking room, a lunch room and kitchen, two work shops for manual training, three class rooms for crippled children, a hydrotherapeutic tank, a massage room and an administration unit which will include principal's office, waiting room, doctors' examination room and nurses' quarters.

The second floor will provide space for two class rooms for the hard of hearing, one for speech defectives, one sight conservation room, one art room, one commercial education room and the combined gymnasium and the auditorium, with lockers and showers.

On the roof there will be three open air class rooms, two rooms for sun baths where children will be able to rest or sleep; and a remaining expanse of roof where the youngsters can play in rainy weather.

The ramps, stairs and elevator will serve the roof also.

This building will fill a most urgent need for the teaching of thousands of handicapped children now partially or wholly denied this opportunity because of inadequate facilities. The physical and mental needs of the children will receive the closest study from the standpoint both of prevention and correction. One of the most important aims of the school will be to discover the vocational possibility and aptitude of each child, so that he may find his niche in life and in order that he may live a life of usefulness and happiness.

According to a recent survey made by J. W. Studebaker, superintendent of Des Moines schools, there are at this time two hundred and eighty-five children in Des Moines, crippled or otherwise handicapped, who will be eligible to attend the proposed D. W. Smouse Opportunity School.

Superintendent Studebaker classifies them as follows: Cripples and those suffering from cardiac troubles, 70; children in need of sight conservation, 25; deaf, 25; hard of hearing, 30; children suffering from speech defects, 30; anemic and nervously unstable, 100.



DR. D. W. SMOUSE

The donor of this magnificent gift, Dr. D. W. Smouse, will be well remembered by most of the members of the profession in Iowa. Prior to his removal to California in 1916, Dr. Smouse was an energizing influence in organized medicine, both in Des Moines and throughout the entire state, having held many important executive positions in the official societies of this section. Dr. Smouse came to Des Moines in 1879 as a young physician, then twenty-six years of age, and practiced medicine here till 1916 when he moved to Los Angeles for the benefit of Mrs. Smouse's health. He joined the Iowa State Medical Society in 1891, and throughout the intervening years played a most important part in the

affairs of this organization. During 1907-08 he served as a trustee of this organization, discharging his duties with that enthusiastic thoroughness characteristic of his every endeavor. In 1879 he became affiliated with the Polk County Medical Society, serving this organization as president in 1914.

POSTGRADUATE STUDY AT NEBRASKA UNIVERSITY

The University of Nebraska College of Medicine will offer a week's post-graduate course in pediatrics and obstetrics, from May 6th to May 13th, inclusive, 1929. This will be the week preceding the annual meeting of the Nebraska State Medical Society, and plans can be made to continue in attendance at the meeting May 14th, 15th and 16th. The course will be limited to twenty-five, and all registrations must be made by April 10th.

The work in pediatrics will include nutrition, feeding of normal and abnormal babies, contagious diseases, and diseases of the new-born. The difference in diagnosis between adults and children will be given consideration. Clinical demonstration of cases in the wards and the dispensary will constitute a considerable part of the work. The college library and the laboratories will be available for intensive study of these cases.

The work in obstetrics will include discussion of sterility, antepartum care, diagnosis of abnormal position and methods used to correct, abortion, antepartum complications, the toxemias of pregnancy, the hemorrhages, eclampsia, use of forceps, version, Caesarian, asphyxia neonatorum, repair, infections, and demonstration of clinical cases in hospital and dispensary.

Any special subject in obstetrics or pediatrics in which the matriculants are interested will receive attention, and the library and laboratories will be available. Work will begin promptly at 8 a. m. each morning. Matriculation and tuition fee—ten dollars. Unless at least ten register by April 10th the course will not be offered.

Committee on Post-Graduate Courses.

NEW SUPERINTENDENT OF VETERANS' HOSPITAL AT KNOXVILLE

Effective April 1, Dr. C. E. Sisson, medical officer in charge of the United States Veterans' Bureau Hospital at Knoxville resigned on account of ill health to accept a similar position in California. The appointment of Dr. Robert Underwood to succeed Dr. Sisson was announced by Brigadier General Frank T. Hines, director of the Veterans' Bureau. Dr. Underwood has been in the neuro-psychiatric division of the bureau in Washington, and was previously at the hospital at American Lake, Washington.

RESULTS OF CANCER EDUCATION MONTH

Scientific programs on cancer before nearly half of the component societies, numerous lay meetings addressed, radio talks and newspaper articles, were the achievements of the first Cancer Education Month promoted by the Speakers Bureau.

The Bureau has record of over forty county society programs, thirty-five of which were supplied by the Speakers Bureau, the other programs being provided by members of the various societies. Furthermore, although the main objective this year was scientific programs, and the records of lay meetings are therefore less complete, we have reports of nearly a score of meetings to which the public was invited. In connection with the announcement concerning the reports of scientific meetings in the newspapers, various scientific statements regarding cancer were printed.

The evening of February 21, a paper prepared by William R. Jepson, M.D., of Sioux City, chairman of the Special Cancer Education Committee, was broadcast over WHO, Des Moines, by a member of the Polk County Society, Dr. W. L. Fleck. On the same evening, through arrangements made by Dr. J. F. Aldrich in connection with the Page County Cancer Program. Dr. Donald Macrae, Jr., of Council Bluffs broadcast a radio cancer talk from KFNF, Shenandoah; and plans have also been made for similar broadcasting from other stations.

One of the outstanding cancer programs was that conducted by the Lee County Society February 28. At 2:30 p. m., John F. Herrick, M.D., Ottumwa, and John T. Hanna, M.D., Burlington, made a professional presentation of the subject before forty-five members of the Lee County Society. That evening at 8:00 p. m. a lay audience of 2,000 people heard the same men make a popular presentation using lantern slides to illustrate their talks. A number of other societies did the same thing in smaller communities with corresponding success.

The members of the Speakers Bureau who this year made one or more cancer talks, are: Howard L. Beye, Iowa City; J. R. Guthrie, Dubuque; Wm. Hearst, Cedar Falls; A. V. Hennessy, Council Bluffs; John F. Herrick, Ottumwa; William Jepson, Sioux City; Anatole Kolodny, Iowa City; Donald Macrae, Jr., Council Bluffs; Norman F. Miller, Iowa City; F. W. Rice, Des Moines; W. A. Rohlf, Waverly; Charles Ryan, Des Moines; S. A. Spilman, Ottumwa; Thomas E. Thornton, Waterloo, and R. A. Weston, Des Moines.

The interest shown both by the profession and the public has prompted the Speakers Bureau to outline a definite program for lay education to be conducted during the coming year. Arrangements are being made with various organizations to provide physician speakers to discuss the cancer problem before these various lay groups.

SOCIETY PROCEEDINGS

Boone County

The Boone County Medical Society met at The Priscilla shop at 6:15 Thursday evening, February 28, and after dinner served to seventeen members were entertained by a talk by Rev. Travis. Miss Greenman, county society service worker, then gave a report of work done since the first of January and also of people sent to Iowa City to the State University Hospital. A report of committees followed, and legislation now pending in the legislature was reviewed. Resolutions thanking the Legislative Committee of the State Society were read and a copy ordered sent to the committee. A copy of rules adopted by the society for investigation of indigent patients committed to the University Hospital will be sent to each member of the society. Notice of the chest clinic to be held in the county on March 15 was given to each member present.

Mark C. Jones, M.D., Secretary.

Cerro Gordo County

The Cerro Gordo County Medical Society held their regular meeting Tuesday evening, March 19th, at the Eadmar Hotel. A 6:30 dinner was served, following which a short business meeting was held. Anatole Kolodny, M.D., neurological surgeon of the University of Iowa gave a very instructive talk on Head Injuries, with lantern demonstration. There were thirty members present and all were glad they had attended and made many comments of approval. Dr. Charles T. Grattidge has been accepted as a member of this society, having been transferred from the Hancock-Winnebago County Society. We were glad to have Dr. R. A. Culbertson of St. Ansgar visit our society meeting and hope that more will attend our regular meetings which are held the third Tuesday of each month.

T. E. Davidson, M.D., Secretary.

Harrison County Cancer Program

Friday, February 22, the Harrison County Medical Society met in Logan to listen to A. V. Hennessy, M.D., of Council Bluffs, who presented a paper on Cancer with practical suggestions in regard to early treatment. Subsequent to the presentation of his paper, Dr. Hennessy, by request, gave a resume of his professional research during his recent visit to Europe.

Johnson County

The Johnson County Medical Society met Wednesday, March 6, in the American Legion building in Iowa City for their regular monthly meeting. Following a six o'clock dinner the program was presented which consisted of: A Plea for Better Ob-

stetrics, Paul A. Reed, M.D., discussed by E. D. Plass, M.D.; A Symposium on Public Health and Welfare: Drs. Harry R. Jenkinson, Frank L. Love, and F. J. Rohner; Medical Education and Pending Legislation, Dean Henry S. Houghton of the University College of Medicine; Probable Significance of Pending Medical Legislation, Attorney Charles M. Dutcher.

Lee County Cancer Program

Thursday, February 28, the Lee County Medical Society met in Keokuk for a cancer program. John Herrick, M.D., Ottumwa and John T. Hanna, M.D., Burlington presented stereopticon illustrated lectures to about forty-five members of the society.

Linn County

The Linn County Medical Society met for its regular meeting Thursday, March 14, at the Hotel Roosevelt in Cedar Rapids. Robert W. Keeton, M.D., of Chicago, presented the scientific paper, Dietetic Control of Obesity, following which a buffet luncheon was served to the members and guests present.

Muscatine County

At the March 6 meeting of the Muscatine County Medical Society, a public health program was contributed by members of the society. The following guests were present: Miss Thelma Pearson, home demonstration agent, Miss Margaret Matheson, public health nurse, Miss Margaret Gill, school nurse, Miss Grace Weeks, social service worker, E. A. Sparling, city superintendent of schools, and E. D. Bradley, county superintendent of schools.

Poweshiek County

The Poweshiek County Medical Society met for an evening meeting Thursday, March 21, in Montezuma and was addressed by Mr. John C. Lincoln on Care of the Sick Poor. Mr. Lincoln is the secretary of the Society Service League at Grinnell. The committee on the county care of the sick reported on their activities and discussions followed both the paper and the report.

Scott County

At our meeting on March 5th, Dean Hare of Davenport gave a talk on Faith Cures, and A. H. Woods, M.D., of the Psychopathic Hospital at Iowa City, talked on Organic Pathology Caused by Perverted Emotions. We had about twenty members present at the meeting.

John I. Marker, M.D., Secretary.

Washington County

The Washington County Medical Society had the dentists of the county as guests at their March 5th meeting at Washington. The physicians presented the following symposium on Vincent's Angina: History, J. I. Fry, M.D.; In the Throat, E. E. Stutsman, M.D.; In the Mouth, T. J. Pease, M.D.; and Bacteriology, C. A. Boice, M.D.

Webster County Meetings

On Tuesday evening, February 26, there was a meeting of the Webster County Medical Society. Roland Stahr, M.D., of Fort Dodge, read a very interesting and practical paper on the subject, Rheumatic Heart Disease in Childhood. Following the paper there was a short business session after which the society adjourned until the next meeting, March 12, 1929.

John C. Shrader, M.D., Secretary.

The Webster County Medical Society held a meeting Tuesday, March 12, at St. Joseph's Mercy Hos-

pital, Fort Dodge, Iowa. Frank R. Peterson of the surgical department at the State University of Iowa, gave a very interesting paper on Cholecystography. He illustrated some of the points by showing x-ray films of cases discussed. There was a good attendance at the meeting and several visitors were present.

John C. Shrader, M.D., Secretary.

On Tuesday evening, March 26, the Webster County Medical Society met to hear J. F. Studebaker, M.D., of Fort Dodge, give a paper on Post-Operative Obstruction. Reports were given of several cases and were well illustrated by the use of x-ray films. There was a good attendance at the meeting, including some guests from outside the county.

John C. Shrader, M.D., Secretary.

Woodbury County

The March meeting of the Woodbury County Medical Society was held Friday, March 22, at the Jackson Hotel in Sioux City. After a six-thirty dinner, the following scientific program was presented: Rheumatic Heart Disease, Merrill M. Myers, M.D., Des Moines; and Childhood Tuberculosis, When and How? John H. Peck, M.D., Des Moines.

Iowa Clinical Medical Society

The Iowa Clinical Medical Society met for its spring meeting March 23 at Park Hospital in Mason City. The following scientific program was presented: Ephasia in Cerebral Hemorrhages, Essential Hypertension, E. L. Wurtzer, M.D., Clear Lake; Pulmonary Malignancies, G. M. Crabbe, M.D., Mason City; Pelvic Appendicitis, T. E. Davidson, M.D., Mason City; Sporotrichosis (?), H. D. Holman, M.D., Mason City; Solitary Cyst of the Kidney, Unusual Renal Calculus, N. C. Stam, M.D., Mason City; Acute Rheumatic Fever in Tonsillectomized Children, Neurasthenia, Pulmonary Moniliasis, Malta Fever—Autopsy Findings, and Cerebellar Tumor, L. R. Woodward, M.D., Mason City.

MARRIAGES

Dr. F. C. Armstrong of Harlan and Miss Helen Mortensen of Council Bluffs were married Monday, March 4, in Kansas City, Missouri. After visiting Dr. Armstrong's father in Manhattan, Kansas, they returned to Harlan. The bride was night superintendent at the Jennie Edmundson Hospital, and Dr. Armstrong is associated with the Harlan Health Clinic.

Another wedding of the season was that of Dr. Edwin Bond of Minneapolis, son of Dr. and Mrs. Thomas T. Bond of Des Moines, and Miss Orma Little of Sioux City, which took place Thursday, February 28 in Sioux City. The couple will make their residence in Minneapolis.

CHEST CLINICS ARRANGED

The Iowa Tuberculosis Association and the Iowa Heart Association have arranged with various county medical societies the following chest clinics:

CLINIC SCHEDULE—1929

Date	County	Town
April 5	Palo Alto	Emmetsburg
" 12	Wright	Clarion
" 19	Pocahontas	Pocahontas
" 26	Page	Clarinda
May 3	Emmet	Estherville
" 7	Marshall	Marshalltown
" 18	Bremer	Waverly
" 24	Chickasaw	Nashua
" 31	Washington	Washington
June 7	Van Buren	Keosauqua
" 14	Appanoose	Centerville
" 21	Buchanan	Independence
" 28	Shelby	Harlan
July 11	Lyon	Rock Rapids
" 12	Osceola	Sibley
Aug. 2	Henry	Mount Pleasant
" 9	Adair	Greenfield

Requests from the following county medical societies have not yet been finally scheduled: Harrison, Winneshiek, Greene, Taylor, Worth, Cerro Gordo.

Clinics have been held so far this year at Grinnell, Valley Junction, Altoona, Mitchellville, Grimes, Boone, Sioux City and Council Bluffs.

WASHINGTON COUNTY SUPERVISORS CONTRACT WITH MEDICAL SOCIETY

Another county society has made a blanket contract for care of the indigent sick of the county. The Washington (Iowa) Journal reports as follows:

"At the meeting of the county board of supervisors this week a resolution was passed providing for a contract with physicians of the county for medical aid furnished the poor of the county during the year 1929. The contract is to be entered into soon.

"The resolution provides that 'the amount of \$1,600 be paid the Washington County Medical Society in full settlement of all medical aid furnished the poor of Washington county during the year 1929'. The sum is to be paid in quarterly installments.

"The resolution authorizes the chairman of the board to sign the contract with the society in conformity with the terms set forth in the resolution. It was adopted by unanimous vote of the board.

"The plan is a new one in this county, but has been adopted with excellent results in many counties of the state. It does away with the presentation of individual bills by doctors, and saves the board from a great amount of detail work. The sum mentioned in the contract is said to be conservative, and about the average paid during a year for medical aid to the poor of the county.

"Under this plan, if desired, the doctors may do a part of the services for county poor free of charge and turn the sum that would come over to the treasury of their society, to be used for promotion of health work. Adoption of the plan means that no bills for medical aid to poor will be presented to the board, as it is all provided for in the lump sum indicated in the resolution."

PERSONAL MENTION

Dr. and Mrs. W. E. Sanders of Des Moines, who motored to Miami, Florida, in December, will return home about the middle of April. From Miami they went to Havana where the doctor attended the Pan American Medical Congress, December 29 to January 6. They then spent a month in Florida and motored west on the old Spanish trail by way of New Orleans, San Antonio, El Paso, Tucson, Phoenix, and San Diego and for the past month have been around Los Angeles where the doctor has been doing some work on cancer with the malignancy board and Dr. Percy at the Los Angeles General Hospital. During the winter sojourn in the south Dr. Sanders has been making a study of the cancer problem among the Indians and Mexican populations who are relatively immune to this disease. He has spoken on the cancer question before St. Petersburg and San Diego Medical Sections and conferred with many prominent physicians and medical teachers of South America, Mexico and the southern part of this country.

PHI BETA PI LUNCHEON, MAY 9

The Phi Beta Pi National Medical Fraternity will hold a luncheon at noon on Thursday, May 9th, during the State Medical meeting at Des Moines.

All Phi Beta Pi are urged to come to the State Meeting and attend the luncheon.

WILL RE-OPEN IN MAY

The New Highland Sanitarium located at Martinsville, Indiana, sustained a severe fire loss a few days since; but fortunately all of the seventy-five or more patients were removed without injury. The buildings comprised three units, the two wings being new brick buildings, five stories high. The fire broke out in the center occupied by the old sanitarium building, destroying it completely. The windows and interior of the new brick building were badly damaged, the loss amounting to \$200,000. Dr. Simon P. Scherer, proprietor and medical director announces to the medical profession that work has already begun on restoring both brick buildings which comprise an American plan hotel with sanitarium, baths and medical clinic, and he hopes to have the same in full operation again by May 1st. The original sanitarium building will not be rebuilt at this time. The two brick units will be operated as soon as the redecoration is completed.

SENIOR BACTERIOLOGIST

Applications for senior bacteriologist must be on file with the Civil Service Commission at Washington, D. C., not later than April 24.

The examination is to fill vacancies in the food, drug, and insecticide administration, department of agriculture, for duty in Washington, D. C., or in the field.

The entrance salaries range from \$4,600 to \$5,200 a year. Higher salaried positions are filled through promotion.

The duties are to determine the bactericidal and antiseptic properties of commercial disinfectants and antiseptics and of products used in their manufacture; the development of methods for conducting these examinations; and research work in connection with problems relating to the properties and application of commercial disinfectants and antiseptics.

Competitors will not be required to report for examination at any place, but will be rated on their education and experience, and writings to be filed by the applicant.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or custom house in any city.

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THE APPLICATION OF PATHOLOGY TO CLINICAL PROBLEMS*†

G. H. HANSMANN, M.D., Iowa City

The application of pathology to clinical problems may be termed the practice of pathology. In order that pathology may be properly practiced, one must obtain the essential material of the disease to be studied. He must be able to recognize how it differs from the normal and he must know what these differences signify. He must decide immediately all of the diseases that the material suggests in order that the proper preparations will be made. The extensive knowledge that is necessary to practice pathology thoroughly is at once apparent. For instance, one case may be chemical, the next may be altered anatomy, the next impaired physiology, the next bacteriological, and the next physical chemical. To unravel and place individual cases on the proper pathologic basis is the practice of pathology or applied pathology.

Material for study is obtained both before and after death of the patient and from animals that are used for diagnostic purposes.

Biopsy or living vision, in its broadest sense would mean examination of material from living individuals but in its restricted sense it has come to mean the examination of tissue obtained from the living individual for diagnostic purposes. Antemortem pathology would however include anything in the way of examination of the material obtained from a living individual.

Examination of a body after death is designated by three names—autopsy, necropsy, and postmortem examination. Autopsy is a rather ridiculous term to keep alive as it means self-view. Necropsy and postmortem examination are more descriptive as they mean dead view. However, it does not seem as if we shall ever

dispose of the word autopsy because of its wide usage. Even though we are aware that in this broad sense serology, bacteriology, chemistry, physics and experimental animals are freely used to firmly ground the conception of the morbid anatomy or the nature of the disease, we must limit our discussion at this time for the most part to antemortem and postmortem morbid anatomy.

We will first take up postmortem examination in the practice of pathology. Postmortem examination includes everything in the way of body examination after death, and includes bacteriological, chemical and anatomical procedures. In short, everything should be done that will in any way clarify the events and the sequence of events which led to the death; to note evidences of former diseases, the so-called historical landmarks, and a description of the body that is sufficiently accurate to identify the individual.

Postmortem examinations have a three-fold value. They are of interest to the student of modern medicine, in that they teach him the fundamental basis of disease. The relative accuracy of various clinical diagnoses is also taught him. Information from these sources can be utilized in his medical practice. In addition, the recognition of new diseases is made possible; the efficiency of the various therapeutic measures is demonstrated and new methods of treatment are suggested. Scientific medicine is thus assisted by postmortem examinations. Postmortems are of value to the community from which the patient comes in that transmissible diseases are recognized and communities, but more especially the immediate members of the family, will make use of this information in the practice of preventive medicine. There is also the satisfaction of having the most exact information determinable in no other way, from which the individual suffered and later died. The time is already here when families are demanding postmortem examinations. The medico-legal aspect

†Presented before the Twin Lakes District Medical Society, Rockwell City, Iowa, July 19, 1928.

*From the Department of Pathology and Bacteriology, College of Medicine, State University of Iowa.

of the postmortem examination is constantly assuming more and more importance. In larger cities, fully one per cent of the deaths are assumed to be of sufficient medico-legal importance to be immediately examined by the coroner's physician. The number added to this by life insurance companies and property settlements is also considerable. Even in our own small city the coroner is asked why this and that person was not examined postmortem. This branch of pathology is requiring that more and more postmortems shall be done. It is not inconceivable that the practice may become practically routine.

A written permission to do a postmortem is the proper start. Surreptitious postmortems are not to be recommended. I have heard that people who stand well in the medical profession have surreptitiously taken organs, have performed autopsies through the rectum, etc. This is not necessary and is harmful to pathology. Proper permission can be obtained in the vast majority of cases if people are properly approached. Permission, of course, must be from the nearest relative or the coroner. When there is question who the nearest relative is, we should obtain signatures from all individuals that may be, and if there is still doubt about the authority of the permission thus obtained it is best to obtain legal advice before proceeding with a postmortem examination, as it is needless to say that a postmortem once done can not be undone.

The arguments for postmortem are, of course, pointed out above. Property settlements, insurance settlements, value to medicine and to the family are the main arguments. I might add that there is no religion which conflicts with postmortem examinations and that the body can be restored so that the examination is not discernible by ordinary observation.

It is not advisable to tell the relative more than is required to obtain permission. But if confronted with a question answer it frankly. If relatives insist on being present at the postmortem give them permission to attend. This attitude will result in a high postmortem percentage. The hospitals obtaining the highest postmortem percentages have adopted this frank attitude. There is no reason why there should be any mystery or secrets about postmortems. The layman's mental picture of a postmortem is not drawn from actual facts. It is always too distorted.

The attitude of the people attending the postmortem is important. Loud talking, smoking and boyish habits are frowned upon in the present day postmortem room. The best attention

will not get all out of the individual case. The respect to the autopsied body should be the same as if it were your nearest relative or most intimate friend. The present day practice admits relatives and a house full of smoke can no longer be tolerated because it is fundamentally wrong and we do not know at what point a relative may enter.

After permission is obtained, every fact about the patient's illness should be gathered and studied. The time of a routine technique for postmortem examination has passed and technique is devised to fit the case provided a coherent history can be obtained. The history will suggest the possible illnesses, the methods to be employed in examination, technique for demonstrating the lesions and the completeness of the postmortem. A person who knows nothing of clinical medicine will find postmortem a drudgery. With proper clinical appreciation the postmortem room is a fascination.

The postmortem room should be equipped with x-ray illuminating boxes so that x-ray plates may be examined. This is very important in bone lesions. The postmortem equipment can best be noted at time of necropsy. It might be added that water, both hot and cold, is necessary and an x-ray apparatus and compressed air are of great assistance.

While visiting various postmortem rooms, I have noticed in general, two types of postmortems performed; the one spectacular and the other scientific. The spectacular morbid anatomist will endeavor to show his technique; the scientific morbid anatomist will endeavor to demonstrate the pathology. The latter type of postmortem is the more instructive. The former is more spectacular as great speed can be developed.

Practically every scientific postmortem examination should have technique of its own and one must not be tied down to hard and fast rules. This is where the individual's ingenuity is at times tried. Some cases are handled best by removing all the organs, en masse, and lesions may then be approached from behind. Others can best be handled from an anterior approach. The point to determine first is the extent and if possible the nature of the lesion. There is nothing which prohibits one from cutting into organs or tissues to determine the lesions. The lesion determined, the best method of demonstration must be worked out. Smears and if necessary frozen sections may be used to obtain this information. The slogan for a properly performed postmortem is:— We shall not disconnect the circulation until

chemical and bacteriological procedures have been done. We will always look in the pulmonary artery for evidences of embolism. No part shall be displaced from its position until its relation to the surrounding parts are established and no parts shall be taken out, the removal of which will affect the further examination of other parts. Finally we must always inquire of ourselves, "Can this case be used to improve our knowledge or the existing knowledge of the subject in question?"

The practice of antemortem pathology is attended with a greater percentage of error than postmortem practice. Three reasons may be enumerated to account for the error. The pathologist is dependent upon the surgeon for the gross description of the lesion and for the selection of histologic material. The lesion can not always be thoroughly explored. The possibility of another lesion of an entirely different nature arising after the total removal of an earlier lesion is usually not considered. The first of these three reasons is much more important than the other two combined. I have frequently called for the entire specimen after a section had been selected from it for histologic examination and have found that the tissue formerly selected was not taken from the lesion at all. This fact has been strongly impressed upon me and I am convinced that when the surgeon becomes a good practitioner of gross pathology, antemortem and postmortem pathologic diagnoses will be, for practical purposes, equally accurate.

The relationship of the practice of pathology to other branches of medicine is not generally appreciated. Some people look upon the practice of pathology as a fundamental study. Others view it as an accessory to the various clinical branches. The practice of pathology, however, is just a different view of clinical medicine. The clinician unaided by laboratory procedures (so-called clinical pathology, chemical pathology, x-ray, immunology, and applied physiology, all of which are laboratory aids employed to demonstrate pathologic processes), can only take the history and demonstrate alterations from the normal in the physical examination, few of which are specific, and then he can make a very good guess, the guess being founded on his own experiences in the dead house or someone else's experiences there. It is only at postmortem that one can demonstrate how a certain clinical picture progresses and ends. The percentage of error in diagnoses purely clinical or in those not directly aided by laboratory procedures can best be appreciated in the dead house. Postmortems in the

former group reveal a much higher (20 per cent estimate) percentage of inaccuracy.

The practice of pathology starts from the other end of the chain of evidence, the essential basis of the disease. From study of the essential material one arrives at a conclusion and then determines whether or not it fits the clinical picture. If it does not fit the picture, as is not infrequently the case, and the evidence acquired is conclusive, it is unfortunate for the clinical diagnosis. If the clinical investigation suggests something that has been undone or suggests another explanation for the findings, the proper adjustment in the final diagnosis must be made. This adjustment is naturally not as frequently necessary in the pathologic as in the clinical diagnoses. It is now evident that a person cannot be a pathologist without being a clinician and that fundamental clinical medicine would be a good characterization for the practice of pathology.

Although it is fundamental material that is studied in the practice of pathology, it is not always typical material and a clear cut diagnosis is not always possible. The injury from various causes may be much the same. In these cases pathology is much abused. It is used to prove the fancy of one clinician and the pathology is thoroughly disregarded by another. In such instances, it is one of the facts in the case and not an incontrovertible diagnosis. It is at this point where the pathologist needs to be a clinician in order not to have his findings misinterpreted and it is in these questionable conditions where he is of greatest service if he is thoroughly founded in medicine and also where the cooperation between the clinician and pathologist with a mutual understanding of what each is intending to do (find the truth) and a frank statement of what each has proven and a correct description of what was seen at operation, are of vital importance. The reason that antemortem pathology is less accurate than postmortem is that one does not always have this information, and at times the material for study is poorly selected. In such cases when the surgeon is a pathologist and knows what the gross findings suggest, he will not err in the selection of tissue for pathologic examination. Under such conditions the accuracy for postmortem and antemortem pathology will be the same and at this point there will be no quarrels between the clinician and pathologist. We are approaching this utopia but it will be some time before it is realized.

Physicians usually look upon postmortem and antemortem reports as the court of last appeal or they may say "My hands are tied" in the pres-

ence of a report that is different than their opinion. Such an attitude is not justified. An antemortem or even a postmortem record should never be sealed. We occasionally alter reports done several years previously, when new and pertinent information arises. I have obtained information useful in my work from individuals with the training of an average diener up to the head of a department. Information is valuable wherever found. No one interested in a case should feel that the record is complete until his last question is answered. Exchange of opinions between pathologists and clinicians should be encouraged and a good pathologist is not disturbed if a physician questions his diagnosis, provided the physician has an honest, unanswered query. Even when all queries are answered and everyone is satisfied a progressive pathologist will volitionally reopen a pathologic report when important evidence is found. Any other medical man should be entitled to the same privilege.

In the study of pathologic material the student is perplexed and stands hopelessly and helplessly by because he knows that pathology contains so many high sounding terms on which he has foundered himself and now does not know how to apply. It must be emphasized at once that many names are applied to identical conditions and it is my plea to fix your attention primarily on the pathologic condition and learn the why and wherefore of the condition if it is known; if the why and wherefore is not known it is knowledge to know this also, and include into the same group those conditions which have the same foundation in fact. If your knowledge of pathology is thus classified it will be easy to apply and if you will inquire each time you hear a new name just what the individual using it means you will soon gather all the names and pigeon-hole them accordingly. But the advantage is that the number of pigeon-holes will be less than if the names were first learned. You need not be timid in inquiring each time you hear a new name because more often than not, all that the individual using an unfamiliar name will know is the name. I ask you who, in such an event, is the more ignorant, the person knowing the name or the person knowing nothing? The name for the condition will come to you without effort if you know the condition.

In order to learn the pathologic conditions we must handle and study tissue. With our hands, knives, and eyes we can become proficient enough so that we will be able to determine what is going on in a tissue in at least 90 per cent of the instances. In the other 10 per cent of the

cases it will require microscopic examination and at times bacteriologic and chemical study to diagnose the additional $9\frac{1}{2}$ per cent and there will be about .5 of 1 per cent of tissue that the best pathologist will admit that he does not know the condition.

The value of gross pathology versus microscopic pathology is at once apparent, and the place where you should put your best effort is at once indicated. I have taught some gross pathology and know that it is difficult to make students even touch tissues and if they do touch them they make a beeline for the faucet to wash their hands and it is not unusual to have an entire roll of paper towels used up in the demonstration of three or four specimens to a group of eight or ten students. It is only an occasional person who is interested enough to handle and examine all of the specimens and arrive at some sort of conclusion before he washes his hands. It is also true that there is only an occasional man that knows much about fundamental medicine and it is self-evident that this individual is not the one that is continually washing his hands.

The handling of pathologic tissue does not infer that you must get rough with it. It means, however, quite the opposite. A delicate touch gives more information about the firmness, friability and elasticity, of the tissue than pulling, punching, and crushing does. In other words you are supposed to pet pathologic tissue. If you must pull, punch or crush tissue you must first be sure that you have all the tissue that you wish for histologic section before you do this. It is occasionally necessary to punch liver to find out if it is tougher than normal or pull tissue surrounding a tumor to determine invasion and to pick off fibrin or blood clots to determine the degree of organization. But this must be done with tissue that is not intended for histologic section. The handling of tissue should be such that its histologic pathology is in no way disturbed. This also indicates the use of sharp knives.

In the study of tissue from the practical viewpoint, the first endeavor should be to place the lesion in one of the three great groups, namely tissue injury and its results, neoplasms or anatomical anomalies. In the first group, the lesion is practically always inflammatory with its resultant repair or retrogressive change. In the second and third (except for obvious anatomic anomalies) the prime importance is tumor or tumor-like formation; in other words a mass. We must determine then—is there or is there not a mass present. The mass most of the time is not large. It need not be larger than 1 cm. in

diameter, but may be almost any size. The main fact is firm homogeneous tissue, regardless of size. Inflammatory tissue most often is made up for the most part of vessels, and when removed collapses and the tissue is soft and elastic and lies flat on a surface. Tumor tissue is non-elastic, compact, and has sharp margins when cut and does not flatten out on the paper. Epithelial tumor tissue can usually be differentiated from fibroblastic tumor tissue in that it usually has a definite architecture formed by the arrangement of the cells to the stroma that carries them. The result is gray granular epithelium between fine lines made up of connective tissue in contrast to the uniform fleshy tissue which is so characteristic of sarcoma as the name sarcoma suggests.

We must approach each piece of tissue with no preconceived idea, but with an inquiring frame of mind and try to answer at least the following queries which are common to all tissue examinations. Other procedures as animal inoculation, culture, special fixation will solve themselves if the following questions are properly answered:

1. Is the type of tissue that which you would expect from the part of the anatomy from which the tissue came? Take bone for example. Is the architecture that of normal bone; does it have the consistency of normal bone; is there excessive soft tissue, etc.? Knowledge of gross normal tissue architecture is necessary to appreciate the abnormal.

2. Is there more or less tissue than normal? In this way you determine proliferative and destructive lesions. The various types of necrosis must be familiar to you in order to know the rate of destruction. The weight and measurements give some idea of the amount of tissue.

3. Does the material resemble any normal tissue or organ or is the tissue altogether unlike an anatomical structure? For example, no matter how much the breast is distorted by inflammation, the configuration, viz., lobules with fat separating them, can still be determined.

From this point in the examination, one of two paths are taken, depending upon whether the lesion is destructive or proliferative.

1. Destructive lesions—In this case you search for the cause of destruction. Points to bear in mind are the types of necrosis (caseation in tuberculosis, coagulation in infarction, etc.), the configuration of areas of necrosis (wedge-shaped indicates infarction), type of exudate (fibrinous, purulent, etc.), the condition of the vessel (thickened, occluded or normal). You then make what cultural studies seem indicated and study histologically.

2. Proliferative lesion—Three general conditions should immediately suggest themselves: neoplasm, injury and repair, and tumor-like growths and cysts from congenital remnants. Tissue from injury and repair, unless it happens to be one of the infectious granulomata has fragments of normal tissue elements scattered throughout (muscle fat, etc.). The infectious granulomata are spongy and less cellular than neoplasms. Abundant collagen is usually laid down in these lesions and by its contraction a rounded edge is created. The caseation in tuberculosis and the rubbery feel and translucent appearance of a gumma are important. An enlarged normal organ can usually be made out by observing whether or not the general architecture is maintained. A tumor never simulates very closely the architecture of an organ.

Neoplasms and growths from congenital remnants cannot always be differentiated. A cystic growth from a region where a congenital remnant may exist is important information. A rather varied kind of tissue appearance is also significant.

A neoplasm is studied in the following manner: Cellularity is evidenced by a dull, granular cut surface (flat wall finish effect). A mesoblastic neoplasm is suggested when the cut surface is uniform and from pink to red in color (flesh-like growth). When the mass on cut section shows trabeculae running through it with granular tissue between them, an epithelial neoplasm is almost a certainty. If the surface is uniformly finely granular, any very cellular tissue can be expected, carcinoma, sarcoma, etc. Bone and calcium and dense scars indicate very slow growth. The expansive and infiltrative factors in growth must be studied. If normal tissue is compressed the expansive element is prominent. If, when you take hold of the margin of the growth with a forceps, there is adherence, infiltration can be expected. If, on cut section, the exact limits of the tumor can not be made out invasion is certain. The vessels must be inspected for invasion by the same type of tissue. The color of the tumor is at times suggestive, i. e., an adrenal cell tumor is usually yellow; mucous, blood and lymph gives evidence as to the type of growth. Metastases must always be looked for. Histologically: The type cell is determined. The differentiation of the cell as well as the degree of differentiation are important. The differentiation varies indirectly with the rate of growth and in this way has an indirect bearing on malignancy. The less the differentiation the more malignant. The frequency of mitoses, invasion

of tissue spaces, and of the vascular system, needless to say, are important. Metastases are again sought in the histologic preparations.

No good pathologic results can be obtained with poorly fixed and improperly cared for tissue. Fixation accomplished, other procedures may be looked up but tissue should be fixed at the earliest possible moment. Tissue should be fixed while still alive. In fixation of tissue, the penetrating power of the fixative must be borne in mind so that the tissue blocks will not be cut too thick. Penetrations of tissue by the various reagents is approximately as follows:

Formalin, alcohol, Zenker's fluid, Mueller's fluid. Formalin fixes quickly pieces of tissue several centimeters in thickness while Mueller's fluid will not fix tissue that has a thickness of over 3 mm.

Formalin as a fixative will take care of most all histologic tissues, and there should be ten times as much fixative as there is tissue. Ten per cent formalin is used, that is, one part of commercial formalin and nine parts of water.

Various fixatives and their uses:

1. Formalin:
 - Hematoxylin and Eosin Histologic stain.
 - Gram stain for bacteria.
 - Fat stain.
 - Spirochete stain.
 - Tissue may be passed into Zenker's or Mueller's fluid.
2. Zenker's solution:
 - Hematoxylin and Eosin stain.
 - Connective tissue stain.
 - Eosin and Methylene blue stain.
 - Giemsa's stain.
3. Mueller's fluid:
 - Degenerated myelin.
4. Alcohol:
 - Toluidine blue.
 - Spirochetes.
 - Hematoxylin and eosin stain.
5. Absolute alcohol:
 - Glycogen.

Formalin fixed tissue may be passed through Zenker's or Mueller's fluid with satisfactory results except for shrinkage. Tissue for Toluidine blue must be fixed in alcohol. Bones decalcify a bit easier and bacteria stain a bit better after alcohol fixation.

Formalin is available and with well fixed tissue in this fluid much can be accomplished. The best results obtain with tissue fixed immediately after removal in the proper fixative.

The head of an animal suspected of having rabies must be transferred to the laboratory unfixed but packed in ice. Fresh brain examination is most satisfactory for this condition.

THE PATHOLOGY OF PULMONARY TUBERCULOSIS DEDUCED FROM PHYSICAL SIGNS AND THE X-RAY PLATE*

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The treatment and care of a case of pulmonary tuberculosis is dependent primarily upon a full understanding of the pathological anatomy of the tuberculous lesions of each individual case.

To many this statement may seem trite and I can hear some say that it applies to all diseases as well as to tuberculosis. I find that it is necessary to repeat this truth, because so many cases are being diagnosed by positive sputum and cared for according to the pulse and temperature.

Thus many cases are allowed to die because the doctor in charge believes that the patient should get up when the temperature is below 99 and that he can do light work or enjoy recreation when the pulse is not unduly fast.

Nothing is farther from the truth. Pulmonary tuberculosis requires longer and more complete rest than tuberculosis of the hip. No physician would be so misled by pulse and temperature in a patient with a tuberculous hip. The doctor can better visualize the hip lesion, the patient complains of pain and there is a definite evidence of a loss of function. A case of pulmonary tuberculosis with temperature and pulse comparatively normal, may have no evident loss of lung function, and if there is no pleural involvement there is no pain. Therefore, our only hope is that the physician in charge will so accurately visualize the pathology within the lung that the patient will receive adequate rest in spite of the fact that he and the doctor are not aided by pain and evident loss of lung function.

The lesions of tuberculosis are so varied, both by type, and the extent and age of the lesions, that I must limit this discussion to the adult apical type, if we hope in a short address to consider the physical signs and x-ray densities from which we must deduce the varying pathological pictures which, as I have said, are all important if we intend to bring our patient to a satisfactory state of arrest.

We have for our guides the history, the symptoms, the physical signs and the laboratory examinations including x-ray studies. I am further limiting this subject to those physical signs and x-ray studies which have a direct bearing upon the treatment and care of adult apical or fibroid tuberculosis.

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Adequate rest is the essential to all treatment of tuberculosis, and it is necessary for the physician in charge to differentiate those cases which require rest long after the pulse and temperature have become normal, from those cases which must be allowed up even when the temperature and pulse are above normal. But as a clinician I cannot pass to my subject without letting you know that I appreciate the necessity of being able to recognize a sick patient when you are called to see one, and further that an understanding of the psychology of the patient is all important. The patient's psychology must be considered especially with respect to his home environment.

I select the adult, apical type because it is the most common manifestation of the disease, and x-ray studies of this type allow us to make our most accurate pathological deductions. I limit my remarks to those concerning the physical signs and x-ray studies because a large consulting practice has shown that my friends in the profession over-estimate the text-book description of physical signs and that they put the wrong emphasis upon the x-ray densities.

PHYSICAL SIGNS

It is all important to recognize the truth that you can have and frequently see far advanced pulmonary tuberculosis without any physical signs which can be differentiated from the normal. The vast majority of our leaders will agree with this statement in private conversation, but very few will admit it in an open meeting.

Since the writings of Laennec, leaders in physical diagnosis have added one new sign after another to our literature. Most of them have been valuable to the student in personal contact with the teacher, but when these observations have been reduced to the written word, they have been misunderstood and our profession has been misled into believing that other men could inspect, palpate, percuss and auscultate far beyond anything of which they were capable. This is not true. My third year students can observe a lagging base, palpate muscle spasm, percuss out the Rhomboid dullness of a normal chest and distinguish between breath sounds which are caused by nasal obstruction and those which are due to the lung changes. Students do not learn this until they are literally torn from their text-books and are made to listen for themselves to the breath sound which they hear over the chests of many healthy individuals. Many physicians come to our clinic and learn for the first time that normal vesicular breathing varies greatly over the same area in different chests and that the flutter

of vesicular breathing is often heard during inspiration as well as expiration. Their greatest surprise usually comes when they find that the expiratory flutter is very long and may be heard over a longer time than inspiration, and that this does not indicate disease.

These points are called to your attention to emphasize my teaching that to master physical signs one must study the normal chest and throughout his medical life constantly refer to the normal as the physician refers to the tuning fork. With the normal constantly in mind I maintain that any physician can adequately master physical examination, but he will not receive much aid from such study unless he learns the limitations of a physical examination.

We must not expect to always find abnormal physical signs when cavity due to tuberculosis exists. It is not uncommon to have young women of eighteen or nineteen years of age come to my office with the physical signs of a normal chest, without fever and without the first sputum showing positive, who have tuberculosis with cavity. If the diagnosis was not subsequently confirmed by positive sputum, I would doubt this fact. Only a few weeks ago, such a case with three cavities in three different lobes came to my attention.

Such lack of physical signs is in direct contrast to the usual case over thirty, with much scar tissue (fibrosis) which often has marked physical signs which taken alone would indicate trouble more serious than actually exists. The former patient with cavity cannot be treated successfully according to pulse and temperature; the latter, with marked fibrosis, can be directed by pulse and temperature better than in any other way. Thus it is easy to see how these discrepancies have grown up in our literature, which confuse the physician. When we fully realize that patients on either side of twenty usually have more inflammatory exudate and less scar tissue, and that patients on either side of thirty-five, more scar tissue, then we have taken a great step toward the proper interpretation of the pathology which causes abnormal physical signs.

Thus in the younger cases you must inspect and palpate for muscle spasm. In the older cases you must inspect and palpate for lagging and muscle degeneration. This does not indicate that muscle spasm does not exist in old cases, but that the greater lesion may be under the least tension. In the younger group great attention must be paid to slight changes of percussion note, but in the older group pleurisy may cause marked dullness over an area with little lung involvement.

Localized rales are the most important physical sign in the original diagnosis and it is true, as our older teachers have said, that in the upper half of the chest tuberculosis must be excluded, but in the lower half of the chest tuberculosis must be proved. This, like all truths epigrammatically expressed, must be fully understood before it can express the truth. This truth is translated to say what is not true—that tuberculosis must be accompanied with rales, but that rales over the base do not indicate tuberculosis. In reality, you can have rales over an upper without tuberculosis and you can have rales over a lower with tuberculosis, and the character of the rales, even after cough, will not indicate the etiology. Medium or fine rales, limited to a circumscribed area, increased after cough, heard in showers directly under the bell of the stethoscope indicate inflammatory exudate, which is circumscribed by the pulmonary septa to a small portion of the lung. This is described pathologically as lobular pneumonia. Lobular pneumonia is the early lesion of adult apical tuberculosis, but tuberculosis is not the only cause of lobular pneumonia. Influenza is another common cause of such a lesion, and infection of the upper air passages can cause localized rales at an apex, often described as apical catarrh.

Basal tuberculosis is quite common and is often overlooked. Thus we must keep an open mind and not be tempted to diagnose tuberculosis because we have rales in the upper half, nor to deny such diagnosis because the rales are heard only over the lower half of the chest.

All rales over any part of a chest indicate a serious lesion, which should receive serious consideration. I would urge especially that patients who have rales following so-called colds, la grippe or influenza, receive unusual care and attention until such rales disappear regardless of the fever. Not that I would expect or fear tuberculosis, but because they indicate pulmonary inflammation or edema, and I have seen many serious results from their neglect. It is important to give this care to the younger group of patients, because of the possibility of tuberculosis, and to the older group because of the danger of pneumonia.

In the younger groups of tuberculous patients rales may come and go while the patient is in bed. They may be heard before the x-ray will show the lesion and they may disappear after the lesion is well-defined on the x-ray film. Thus we have an explanation of why Dr. Osler paid so much attention to quiet breathing. When the exudate did not completely close the air sacs we had rales, when the exudate coagulated and the

air did not enter the small lung area, then we had no rales, only quiet breathing, but when the exudate is absorbed partially but not completely, we again have rales. Thus it is common to find a good physician who has been misled from his original diagnosis of tuberculosis, because in two or three weeks the rales have completely disappeared, and he was convinced that he had been mistaken. An x-ray examination, taken after the patient was discharged, would have prevented this mistake. Many lives have been lost, because this precautionary measure was not taken. This is more necessary than to x-ray a limb, after the fracture has been reduced.

Fibroid lesions in patients on either side of thirty-five will have rales in proportion to the extent of the lesions and the activities of that patient. Old fibroid tuberculous lesions have a very complex pathological anatomy. Scar tissue develops after absorption of pulmonary exudate. Fine crackling rales or coarse rales may be heard over such an area. A new pulmonary exudate of lobular pneumonia may develop near the old lesion and showers of fine rales may be heard. The circulation is impaired, many areas of emphysema exist and undue exertion can easily cause edema.

Thus the rales in different parts of one lobe may be fine, medium or coarse during one examination. Such a case has developed great resistance to tuberculosis, and the gross, adventitious sounds cause the physician to be over-apprehensive. Given a few weeks of rest and such a patient may be able to go to his meals.

This is not true of the case on either side of twenty-five, with similar findings. It is because these cases have not received prolonged rest in bed, that the death rate of tuberculous patients between twenty and thirty-five years of age has not been reduced, while as a whole the tuberculosis death rate has been reduced almost 50 per cent.

As physicians who are responsible for the lives of these patients, we must ponder these truths, and remember that three months of absolute bed-rest is a long time for a patient over thirty-five with a favorable fibroid lesion, but that three years of such rest may be necessary to save the patient who is under twenty-five. Also the younger patient generally has less pronounced physical signs and x-ray densities.

The pulse and temperature are unworthy guides in the younger group, but they are all important in the older group. Rales will help to localize the lesions, but they do not show the systemic effect of the disease. Many fully arrested cases carry

fine rales throughout life, and a patient is often wrongfully diagnosed active, on account of the rales. In contrast many very active cases have few rales, and there are long periods of time, when these patients may have little change of pulse and temperature. Generally the latter cases are found in the younger group, and the former in the older group. The x-ray can answer all these questions and should be so used, but much can be learned by carefully noting changes of size, number and location of the rales in a given individual.

It is my opinion that breath sounds are more important in determining the progress of tuberculous lesions, than they are in making the original diagnosis. If the physician has carefully examined and noted the breath sounds at short intervals over a long period of time, he has so familiarized himself with the breath sounds characteristic of that individual that slight changes will be detected easily.

It is impossible for me to describe changes which suggest trouble, because they are so indefinite and vary with the individual, and again trouble is often suggested when it does not exist. But these changes should be listened for, because they are heard before definite rales are elicited, and often without changes of pulse and temperature. They are only recognized by comparison with previous examinations. When speaking of this with able diagnosticians, we have said that the breath sounds were possibly less distinct, never more intense, slightly muffled and at times almost interrupted. Expiration may be slightly prolonged. It is very dangerous to describe in words what you hear, but if you have carefully noted from week to week what you have heard, and have paid close attention to the five properties of sound (intensity, pitch, duration, rhythm and quality) every time you have adjusted the bell of your stethoscope to the patient's chest, then you will be able to note these differences in any given case. But again, great pathological changes may take place, without detectable changes of breath sounds, and such changes may be heard without new tuberculosis lesions. Again the x-ray will answer your question.

I try to impress upon my students that if they will approach chest diagnosis with simplicity of mind and humility of spirit, and a good pair of stereoscopic chest plates, that they may learn to help their patients. But when that student believes that he can visualize chest pathology by what he has read in books, or what he has heard in the amphitheater, rather than from what he has seen and heard from both normal and patho-

logical lungs, he is lost. His only chance is to bluff, and then the patient suffers, especially the one with pulmonary tuberculosis. The physician who is not quite sure that he knows, but who is trying hard to master the pathology of each chest which is presented to him, can go far, and he will return many tuberculous patients to a satisfactory economic status. But he must know, as I said before, that a spot on the lung of a patient under twenty-five, requires more care and longer rest than does tuberculosis of the hip.

The proper use of the x-ray is of the greatest value, because it enables us to visualize the whole lung, to determine the extent of the lesions and to know how much pulmonary exudate exists in contrast to the extent of the fibrosis (scar tissue).

The x-ray plate ceases to be of value when we consider hilum densities, such as calcification as of great clinical importance; when we so believe in peribronchial and perivascular tuberculosis, that we are unwilling to make a negative diagnosis; when we are over-impressed with the heavy density due to scar tissue in the older cases, and do not know that this is a repair process, and when in contrast we do not study with sufficient care the small fan of lobular pneumonia due to recent exudate, which indicates recent pathology and pathology of great clinical importance—and significance.

Thus with the x-ray studies, as in considering physical signs, age is all important. The patient over thirty, with heavy scar tissue, may have an excellent prognosis, but such a patient at twenty, has a very poor prognosis. As I have said, the care necessary for the younger patient, is out of all proportion to the care necessary for the older patient, if we aim to return each of them to an economic basis.

It is those of the younger group, who are most apt to have the small lobular pneumonias (fans), which are easily overlooked upon the plate and often give slight or no physical signs.

Upon the whole, the great value of the x-ray plate is its wonderful revelation of the pathology by which you can judge the past history and fairly accurately predict the future. But unless you realize that adult, apical pulmonary tuberculosis begins as a lobular pneumonia, that this is usually absorbed and scar tissue is laid down, and that there is later another infection which causes a similar exudate, and that this repeating process goes on through the course of the disease until the case is either arrested or dead, unless you know this, the meaning of this pathology will not be of practical use to you. But if you do

understand all of this, you will study subsequent plates for absorption of exudate and the laying down of scar tissue which indicates repair; and for cavity which indicates breaking down, and beginning caseous broncho-pneumonia, which indicates the spread of the disease by aspiration.

It is well to remember that tubercular enteritis is frequently associated with pulmonary cavity and that caseous broncho-pneumonia may be present, with no physical signs to indicate its presence, except quiet breathing on the affected side. Intense harsh breath sounds over one base cause us to suspect caseous broncho-pneumonia at the opposite base.

I have described this x-ray picture many times. What I am trying to say today is that an understanding of the importance of this pneumonia in tuberculosis is basic. This lobular pneumonia is what I originally termed a fan, and if it is studied on the one hand to the point of repair (absorption of exudate, and laying down of scar tissue) and on the other hand to destruction (cavity and caseous-broncho-pneumonia) it will give you the rationale of this form of tuberculosis, will help in the interpretation of physical signs, and will enable you to better direct the rest and activities of your patient, since you will better know the pulmonary pathology. The fan (lobular pneumonia) is not a part of the picture of other forms of pulmonary tuberculosis.

Let me describe to you how I teach my students how to approach the chest. I take four students and one patient, all stripped to the waist. I have them palpate the trachea and record its position, and record the point of maximum impulse; then carefully percuss the diaphragm dullness from spine to sternum on forced inspiration and forced expiration and record. By this time, the student has had an opportunity to carefully inspect and palpate the entire chest. He then percusses the paraspinal dullness and maps out Koenig's Isthmus. He then percusses the rhomboid and trapesins dullness just inside the mid-scapular line and turns to the anterior chest wall. The heart and pectoral dullness is recorded. Thus any abnormalities which he has found over the front or back has been noted and compared with the normal chests of his three associates. The x-ray plate of the patient is always at hand for comparison. He has learned that the trachea is easily palpable; that the normal point of maximum impulse is sometimes difficult to determine in the healthy individual; that there is great movement of the diaphragm dullness in the healthy individual; that the width of Koenig's Isthmus over one apex is not so important as the

comparative width over the right and left apex; that para-spinal dullness is easily elicited and in the healthy student is never below the second dorsal spine, but that at times it will descend that far; that when para spinal dullness is definitely unequal on the right and left, that pathology is strongly suggested; that he can detect the rhomboid dullness, and that when it is not found he must look for the explanation; that it is easy to determine the heart dullness of the average student with accuracy, but that his heart outline of the tuberculous patient is generally far from where the heart is actually placed.

Breath sounds are now considered, and he spends the greater part of two hours learning to record intensity, pitch, duration, rhythm and quality, which he hears under one area of the bell of a Ford stethoscope. This area is chosen for the student as the right or left supra-scapular fossa. He listens and records what he hears over this small area on his three associates and then listens to the patient's chest. He listens during quiet and moderately rapid breathing both with the mouth shut and open and finds that it is much easier to record the difference of sound over the pathological lung than those sounds heard over the lungs of his fellow students.

He has learned that he can make fine distinctions and that he can make them accurately. He has learned that the greater differences are in expiration and is asked to listen for breath sounds over the head. But he has learned also two important facts: that the sounds are not as he was led to expect from his study of the books and that he does not know how to interpret these sounds.

Many weeks may be spent in such study, but when he has mastered himself, his instruments (the patient and the stethoscope) he is allowed to examine patients, study their histories, their x-ray plates with all other laboratory reports, and above all, to familiarize himself with each patient's symptoms, physical condition and mental attitude.

He soon learns that the succussion sound, the coin sound and cracked pot sound are interesting but not all important as he had believed. He commences to approach a chest with reason rather than cock-sureness, and one or two points which are to tell him all. Let me present an example: late in the course he is given three cases, one hydro-pneumothorax, one of pleural effusion and one of fibroid pleurisy. He does not depend upon tymphony and breath sounds to solve his problems. He marks the trachea, the

apex beat and percusses the diaphragm at inspiration and expiration.

Hydro-pneumothorax pushes the trachea and apex away from the dullness, as does the pleural effusion, but the fibroid pleurisy draws the trachea and heart toward the dullness. He finds that the diaphragm dullness of the three cases is very different.

None of the dullnesses are moved by inspiration or expiration. The hydro-pneumothorax has a straight line of dullness, the pleural effusion rises sharply in the axilla, and the fibroid pleurisy extends far up the anterior or posterior chest, sometimes to the apex. The student now moves the patient to determine whether the dullness shifts with position and finds that only the pneumothorax case shifts definitely.

Finally the student listens with the stethoscope for breath sounds, transmitted voice and whispered succession sound and coin sound to confirm his diagnosis. He is most interested to note that the breath sounds over the pleural effusion are more intense, than he is to elicit the coin sound. For having heard that over a large cavity, he has lost his respect for it as an accurate diagnostic procedure. He has been taught that he must listen for what he hears and record that and not what he understands the books says that he should hear.

One student made the following observations: that the chest wall over the pleural effusion seems to go up on inspiration but does not descend with expiration; that the chest over the fibroid pleurisy lags or is immobile and that over the hydro-pneumothorax is restricted but does move slightly with inspiration and expiration. He described the movement of the costal margin as follows: pleural effusion—costal margin moves in slightly with inspiration; fibroid pleurisy—costal margin does not move; hydro-pneumothorax might move, but if it does it moves outward. He was describing as he saw, not as he had read. These observations are interesting in the light of the later work of Dr. Bray, who has shown that the costal margins move in because of thoracic breathing, and not because of the fixation of the diaphragm, as Dr. Hoover has described.

In the regular examinations of which we were speaking, the student next turns with keen interest to his study of the x-ray plates of his patients and he is delighted to learn that his main diagnoses have been correct. But he is surprised and humiliated to learn that he has overlooked much pathology which is of the greatest importance to the care of the patient.

Just so hundreds of cases must be studied; some watched to recovery, some to the post-mortem room.

It is from the post-mortems that we learn the most. We learn that young white adults under twenty-five years of age, do better, under careful and prolonged treatment, than do negroes of any age, but that they are poor risks.

It is our opinion at the tuberculosis sanatorium that the next great cut in the tuberculosis death rate must be made by teaching our profession and the public, the pressing need of better and longer care for all tuberculous patients under thirty years of age than we are now giving.

It is easy to learn when to put a patient to bed, but only a critical study of the pulmonary pathology of each patient will allow us to determine when that patient should be allowed up. This study must be made by close clinical observation, physical examinations frequently repeated and by a careful analysis of the pathology suggested by many x-ray studies, always remembering that the younger the patient, the graver the prognosis and the need for longer rest.

When it becomes usual with our profession to make such a study of each tuberculous patient, the doctor will become so convinced of the need of rest for the individual case that we can easily teach this need to the people; but as long as we believe that knowledge of the pulse and temperature, and rales and positive sputum are all that are necessary for the proper management of the tuberculous patient, we will flounder and our patient will die for lack of care. This is especially true of the young adult.

LOCAL ANESTHESIA FOR THE GENERAL PRACTITIONER*

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Local anesthesia has unfortunately come to stand in ill repute with a large percentage of the lay public. This can be traced directly to the medical profession. Sloppy inaccurate usage, both by unskilled hands and untrained minds, has caused unnecessary pain where the patient has been promised comfort. Ruthless continuation of the treatment in spite of failure of anesthesia has continued the bad impression. This patient becomes a permanent enemy of local anesthesia and usually hesitates very little in spreading his views and the reasons, often exaggerated, for them. On the other hand the greater ease, and the saving

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of time, either by the use of general anesthesia, or the complete absence of it have kept a large element of our profession from spending the time and effort necessary to perfect themselves in the usage of this most useful adjunct to surgery.

Confidence and satisfaction in local anesthesia must come with experience. There is no better way to acquire this than by gradually adding to your practice established techniques in isolated procedures until your grasp of both the application and the results have given you the mastery necessary to use this method up to the limit of its present value.

In this paper we have no intention of going into the more intricate and complicated of these procedures. Nor do we intend to consider anything that can not be done in the office or the home in any locality. The procedures offered I have used extensively until I am able to assure you from personal experience that they are absolutely sound. The short time at my disposal will necessarily limit these topics to a very few. If this paper has a justification it is that it may give you one or more ideas that will definitely add something to your practice—both in its value to your patient—and in its satisfaction to yourself.

Controversy is a terrific time consumer so these methods are offered to you as the procedures of choice without presenting the reasons for so believing. There are other methods that others may prefer and that may be more profitably handled in the discussion of this paper should the paper warrant discussion.

To accomplish local anesthesia by the so-called infiltration method successfully you must be thoroughly familiar with at least the cutaneous sensory enervation of the whole body. The great majority of men still use local in the following manner. They inject where they are going to cut. Then when their progress carries them out of this area the patient is hurt—jumps or cries out—and the doctor again injects more solution in his extended field of operation. This is continued until his original procedure has been brought to some sort of termination. What has he accomplished? First—he has the very undesirable feeling of having done a sloppy job. Second—he has worked his patient up nervously, hurt him more or less, and certainly has failed to impress him with either his own efficiency or that of local anesthesia. Third—he has messed up his field and distorted his anatomical relations. Fourth—he has increased his chances of infection and decreased his chances of prompt union.

There is rarely an occasion to inject your anesthetic fluid in your field of work. There are few local sites such as the mental and infraorbital branches of the fifth cranial where they may approach your field directly from below. In these cases the injection may be needed on the site of operation. These cases, however, are the exceptions.

Know that unless you are near the midline you can have complete anesthesia of abdomen and chest by a posterior line of infiltration alone. Know how much of the anterior surface of the thigh is numb to a single injection of the external cutaneous nerve near the upper end of Poupart's ligament. Know what area of the neck and surrounding surface is blocked by a single line along the back of the sterno mastoid muscle. Know how far up the scalp you can be sure of a single block below—and when you must start a complete circular block to get results. In other words know where your cutaneous enervation comes from. Then block that field by injecting your fluid in and around the area supplying these nerves. Nothing less than a book could cover all these areas but with a thorough knowledge of cutaneous enervation—and this a comparatively simple thing over most of the body—you need no further help. The advantages of this method are. First—satisfaction for yourself and your patient. Second—complete anesthesia over a broad enough field to permit better work and third a dry clean field whose healing is no way hindered by your anesthesia. In short there is a correct way to carry out any local anesthesia. It may be very simple in this type of work but it still remains an essential that it be correctly done.

Several items of interest in all procedures of this nature can best be discussed in the simplest and possibly the most frequently used of them all—the simple block of the finger. A complete circular block of the base of the finger is made through one puncture on the dorsal surface. While angulation of the needle from this opening past the sides of the proximal phalanges will not permit the needle point to reach the center of the palmar surface—lateral spread of the infiltrating fluid will complete the ring. This is the general type of procedure where a whole wall is completely covered to be sure to catch the necessary nerves which traverse it. If sufficient solution is used to distend the selected area throughout there need be no fear of insufficient anesthesia. I have at no time seen any reason for limiting the amount of fluid unless it be in an enclosed cavity such as the sacrum. Unless used in enormous quantities general reactions do not occur unless

due to local peculiarities of the areas involved. Every psychic reaction possible has been called a reaction to novocaine. To none of this can I agree. Nor does the contention that large quantities of solution cause greater after pain have any standing in fact. There will be some soreness at the area of injection but the pain from the procedure for which the anesthesia was induced is merely the pain that would have existed at that time had no anesthesia been used. This, however, often seems worse because of the preceding period of complete comfort. With the finger properly and freely enough injected we wait. Hurrying a procedure after the use of local is the cause of many failures.

Your local—depending on many things—will last from one to three hours. Learn how long it takes to become effective—and do nothing until that time has passed. A large middle finger often requires twelve minutes—five usually is long enough for the fifth finger while a large thumb may require eight. Due to the anesthesia of the outer filaments of the nerve, first with gradual reaching of the inner and consequently the distal filaments, last the anesthesia travels from the base of the finger outward. To stand around picking this with a needle to see if it has yet reached your operative site does nothing but work the patient up into a nervous condition far worse than the one he is already in. This procedure then requires care in injecting a sufficient amount of the proper fluid in the right place—and giving it time to become effective. This is exactly the same as it is with other more complicated procedures. I do not believe irregularities of results can be attributed to anything except improper technique. In my experience at least the solutions made have always been satisfactory. Rarely an anatomical anomaly may be a reason for failure.

Brachial plexus block is one of the most satisfactory procedures we have. Its field of usefulness is wide, its application simple and its dangers negligible. It may be induced with the patient in the prone or erect posture. By choice the patient should be lying down with the shoulder slightly forced forward. Usually the external jugular vein is either demonstrable or can be made demonstrable as it passes over the clavical. If this point cannot be determined bisect the distance from the sterno-clavicular and the acromio-clavicular joints. Make your subcutaneous wheal one centimeter above this. This is your point of entry in the supra-clavicular route. As in all of these procedures you must be thoroughly familiar with the anatomy involved. Visualize the

spinal column, the brachial plexus, the first rib, the subclavian vessels and above all the triangle formed on the inner side by the spine and scaleni muscles—the clavical and the subclavian vessels below and the trunks of the plexus above. With this in view your direction of injection is evident. A long sharp thin needle is introduced without stylet—backward, inward and downward toward the first rib. The distance varies that the needle will penetrate according to the thickness, etc., of the neck injected. After two or more centimeters the needle clearly springs through a fascial layer. You are now down to the plexus. Continue entrance slowly in this direction until paresthesias are noted. The commonest one will be moderate shooting pains in the little finger. Others may involve any part of the hand or arm. If you enter several centimeters without them you usually run your needle into the first rib. Pull back to the fascial layer and slightly alter the direction of your needle. After the paresthesias, which are usually easy to obtain, appear, you are in a position for your first injection. First put on your syringe and place a vacuum in the needle to be sure you are not in a blood-vessel. Never in any local anesthetic technique fail to do this. A large intravenous—or intra arterial injection of novocaine may be most serious. This precaution having been taken you inject slowly ten cubic centimeters of 2 per cent novocaine solution. The needle is now withdrawn about two centimeters and its hub depressed until the point is toward the transverse process of the sixth cervical vertebrae. This is the one quite easily palpable. It is then pushed in two centimeters in this direction and five cubic centimeters of 2 per cent novocaine injected. The point is next directed down toward the first rib and a similar injection carried out. Asepsis is of course presupposed.

If you are careful not to inject your solution into a blood-vessel there is only one disturbing complication that will arise. The dome of the pleura may be injected with a resultant difficulty in breathing for from two to eight hours. I have never seen it be, however, more than annoying.

Almost at once and always after ten minutes you have complete anesthesia of the arm except for the intercostal humeral branches under the arm and the terminal branches of the cervical plexus over the shoulders. If necessary these can be easily blocked subcutaneously. Its uses are innumerable.

Caudal block of the sacral nerves has a very extensive usage and is, usually technically simple in its application. Aside from its uses as an anesthetic in the hospital it offers very satisfactory

results for many conditions that must be cared for outside. It is true local injections suffice for some of these procedures but I have always hesitated about perineal and peri anal injections because of the great difficulty of asepsis. Among their usages are—the common single large thrombosed hemorrhoid, the probing of possible fistulae, the care of anal and peri anal abscesses, proctoscopy, perineal injuries, painful intra urethral manipulations and treatments, cystoscopy, etc. Furthermore the anesthetic is thorough enough and extensive enough so that these things may be handled with a sufficient amount of deliberation to insure proper results.

The patient is placed on his or her abdomen with a pillow under the hips. At the lower end of the sacrum is a triangular or U shaped opening through which the injection must be done. The simplest method of locating this is to locate the last spinous process. This is usually the fourth sacral. Just below this and a little to either side we find the two sacral cornu. The space between these is covered by a fibrous sacro-coccygeal membrane but has no bony covering. After this area is located a subcutaneous wheal is made and the needle then carried down to this membrane and it is injected. This needle is then withdrawn and the area massaged. When the edema caused by injection is gone and the land-marks have returned, a spinal puncture needle is introduced with its stylet in place. A breakable needle should never be used because at times it may be necessary to bend it quite a little. With the hub of the needle depressed slightly toward the internatal cleft and the point kept in the midline the needle is introduced upward until the center of this membrane is punctured—this can be clearly felt—and the anterior bony wall of the sacral canal is reached. This is usually a very simple maneuver. The needle is now pulled back slightly—the hub depressed more and with the bevel up it is gradually worked up into the canal. About six to seven centimeters should disappear under the skin. The stylet is now withdrawn if no blood or spinal fluid appears injection is made—after the usual withdrawal test. If blood or spinal fluid does appear the needle is withdrawn a little bit and again tried. About thirty-five cubic centimeters of 2 per cent novocaine solution are now injected very slowly. Twenty or more at this site and the remaining during a very slow withdrawal. After the needle point has again passed the sacro-coccygeal membrane injection is stopped. Anesthesia now appears but slowly. Fifteen minutes are practically always required and sometimes twenty-five. Do not try

to even test your anesthesia before the fifteen minute period is up.

A little shortness of breath and a little anxiety on the patient's part for a minute or two is the usual reaction. Vomiting, diarrhea and collapse will follow a rapid injection but not a slow one. About the tenth caudal injection I did, I made this mistake. The security of previous use had made me a little skeptical of this precaution. Nothing unfortunate happened except a serious scare to all involved. It has never repeated itself nor will it happen to you if you take your time. The reactions of intra-meningeal and intravenous injections we will pass over. They will never occur if the precautions mentioned are carried out. This anesthesia often lasts for several hours. There are cases where anatomical anomalies prevent injection. There are also cases where anesthesia absolutely refuses to take place. In nine out of ten cases, however, it will be entirely successful.

Sciatic injections has of course been used for years for sciatic neuritis. The block with novocaine is a very satisfactory preliminary to stretching the nerve and also to injections of more painful solutions. I am not advocating or opposing this as a treatment for sciatica. There are those who use it, however, and to them the technique is essential. It is to me however a very valuable thing in reducing or manipulating injuries of the ankle joint. With the patient in a modified Sims' position with the leg to be injected up—and pulled forward—you locate your land marks. A line is drawn between the posterior superior spine of the pelvis and the great trochanter and this is bisected and a perpendicular taken from the center about one and one-quarter inches down. Right angle injection to the skin is now made. There isn't the slightest difficulty in obtaining paresthesias. Ten cubic centimeters of a 2 per cent solution is usually sufficient. While at times manipulation of a badly injured ankle may not be absolutely painless the anesthesia is adequate. Frequently, however, there is absolutely no pain.

Complete anesthesia of the foot is a little more difficult to accomplish than some other areas but its advantages are so great that the time necessary to become familiar with the procedure is well spent. A moment's survey of the field will suggest to you the many needs this anesthesia will supply.

Three things are necessary—an anterior tibial block, a posterior tibial block and a circular subcutaneous block at the ankle. The sensory enervation of the foot comes almost entirely from

the anterior and posterior tibial but the subcutaneous ring is necessary to stop terminal subcutaneous branches that arise from the nerves higher than the sites of injection. This, of course, is accomplished like any other similar procedure.

The anterior tibial block is carried out in the following manner. The lower-most point of the base of the internal malleolus is located. With the patient lying down with knee flexed and sole of foot flat on the table a ring is made around the ankle at this point. The tibialis anticus and the extensor hallucis are now located. They are very commonly visible. If not, the former can be quickly made evident by active flexing of the foot on the ankle and the latter by over extending the great toe. At the lateral margin of the tibialis anticus as it crosses the line around the ankle, subcutaneous injection is made. Two deep injections are made through this point. The first needle is forced very slightly inward and at a forty-five degree angle or a little less downward until the tibia is encountered. The needle is now very slightly withdrawn and five c.c. of a one per cent solution is injected. The needle is now withdrawn to the skin but not clear out and then it is directed inward over the outer margin of the extensor hallucis and three cubic centimeters of a one per cent solution injected to the bone. Both these injections are not necessary in every case but due to certain irregularities in the course of the nerve it is better to always make them and then your anesthesia is assured. This block is done first as it takes a little longer to become effective than does the posterior tibial. The latter nerve is reached from behind. At the point where our circular line of the ankle passes the inner margin of the Achilles tendon the puncture is made. The needle is parallel to the table but is slightly inclined outward. You feel it pass a fascial layer soon after entrance. It now goes forward easily until a deep tough fascial layer is encountered. Soon after puncturing this the bone is encountered. Between the bone and this last fascial layer inject five cubic centimeters of one per cent solution. In about six or seven minutes your anesthesia is complete. A little massage over each injection often is of value.

The specific techniques offered in this paper have deviated slightly from those worked out originally by other men. You will find after using them that you prefer to alter certain points slightly yourself. The thing you will discover, of still more importance, after experience with them, is that they are much simpler than they sound in description.

THE EPIDEMIOLOGY OF POLIOMYELITIS*

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Twenty-five or thirty years ago this state was by no means free from poliomyelitis, as evidenced by the fact that one sees today not a few mature adults who show the typical residual paralysis of this disease, dating from an attack in early childhood. It is probable in fact that prior to 1900 some cases occurred in the state every year, and were correctly diagnosed as poliomyelitis; but they were so few and scattered as to attract no special notice and to be seldom recorded in the medical literature.

During the first decade of this century the disease entered upon a new phase in its prevalence, beginning to occur in recognizable epidemics. In 1905 an outbreak of about fifteen cases occurred in Audubon county; and in 1908 there occurred in Kossuth county a group of ten or more cases, reported by Dr. J. W. McCreery.¹ However, so far as shown by the record, both of these outbreaks were localized; and it was not until 1910 that Iowa suffered any extensive epidemic. In that year, an epidemic, beginning in April in Mason City, spread quickly to the surrounding country, then to neighboring counties; and during the summer a total of more than 650 cases were reported in the state, chiefly in the northern half. Since 1910 poliomyelitis has been included in the list of notifiable diseases, and cases have been reported in the state in every year, in numbers ranging from 20 to 250. It seems certain that the actual number of cases has been considerably greater than indicated by these reports, but the epidemic of 1910 appears not to have been equaled in any subsequent year.

The world history of poliomyelitis is essentially similar to its history in this state. For nearly 100 years poliomyelitis has been known to physicians, and certainly it has existed as an undifferentiated disease much longer than that. But until quite recent years it was of rare occurrence, seen in many countries, but only in isolated sporadic cases. Then, beginning about 1870, little localized epidemics began to be reported; and decade by decade these became more frequent and of larger size, until, in 1905-06 there occurred in Norway and Sweden an epidemic spreading widely over these two countries and totaling more

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than 1,500 cases. Since then, epidemics of greater or less extent have occurred in nearly all parts of the world, the most extensive being that of 1916, when more than 30,000 cases occurred in the United States, principally within a radius of 300 miles around New York City. From 1916 to the present time the general trend of prevalence in the United States has been downward; but sporadic cases and local epidemics have continued to occur every year; and in two years, 1921 and 1927, there have been rather widespread epidemics.

This increase in the prevalence of poliomyelitis has naturally stimulated study of the disease, with the result that the literature of the last twenty-five years records numerous and extensive investigations, clinical, experimental and epidemiological. Since it is impossible, in a brief space, to review this extensive literature, all that will be undertaken here will be to note briefly the facts which are considered to be of principal importance as bearing upon the specific cause and natural occurrence of poliomyelitis, and to attempt to build up from these facts a reasonable conception of its epidemiology and the outlook for its control.

Our most definite knowledge of the specific etiology of poliomyelitis is derived from experimental studies, the principal results of which are as follows:

Monkeys inoculated with material from human cases develop a disease which, clinically and pathologically, is essentially identical with poliomyelitis in man. From monkeys so infected the disease may be transmitted, by inoculation, to other monkeys through an indefinite number of passages, under circumstances which indicate clearly that the pathogenic agent is a living, specific microorganism. This organism passes readily through filters which hold back ordinary bacteria, hence is classed as a "filterable virus". It may be cultivated *in vitro* under special conditions, but the only property by which it may be identified as the virus of poliomyelitis is that of causing the disease when inoculated into monkeys. Hence, every test for the presence of the virus of poliomyelitis involves the inoculation of one or more monkeys.

By experimental inoculations of monkeys it has been shown that this virus is present post mortem in the brain and spinal cord, in certain glands, and in the nasopharyngeal mucosa of persons who have died of poliomyelitis; and, during life, in the nose and throat secretions, and less frequently in the intestinal secretions of persons suffering from this disease in the acute stage

or in early convalescence. The virus has also been demonstrated in the nose and throat secretions of persons who have shown no recent symptoms of illness, but who have been associated with cases of poliomyelitis. This is a fact of prime importance in the epidemiology of the disease.

Monkeys may be infected experimentally by injection of the virus directly into the brain or into a nerve trunk; also, but less constantly, by intraperitoneal injection. It is difficult to cause the infection by feeding or by subcutaneous or intravenous injection; but it is readily produced by swabbing the virus upon the nasal mucous membrane. Hence, it is a reasonable inference that in nature the infection is transmitted by way of the respiratory tract rather than through the alimentary canal or by the agency of blood-sucking insects.

Monkeys which have survived an experimental infection are thereafter immune, and their blood serum has demonstrable protective properties as does the serum from recovered human cases. Experimental immunization with killed virus has not proven effective; and though it is sometimes possible to immunize monkeys with living virus without causing the disease, no method of active immunization has yet been devised which is safely applicable to man.

Animals other than monkeys and higher apes have usually been found insusceptible to experimental infection;² and though the paralytic diseases which occur naturally in a number of domestic animals have been extensively investigated, no authenticated case of a natural infection which may be identified as poliomyelitis has yet been found in any of the lower animals. It thus seems probable that, in nature, man is the only host of this virus, and that infected human beings are the only sources from which it is spread, although the possibility that some of the lower animals may harbor and spread the virus is not definitely excluded.

In brief, the best experimental evidence which is at present available places poliomyelitis, as regards the nature of its sources and the mechanism of its transmission, in the same class of communicable diseases as measles, diphtheria, scarlet

2. Of rabbits inoculated with massive doses of virus derived from experimentally infected monkeys a certain proportion die after seven to fifteen days with symptoms suggesting involvement of the central nervous system, but neither the symptoms nor the lesions resemble at all closely those of poliomyelitis in man or in the monkey. It seems established, by subsequent transfers to monkeys, that the virus of poliomyelitis may survive in the rabbit, and may probably multiply, but it is not certain that the rabbit is actually susceptible to the pathogenic infection.

The infections caused in rabbits and other animals by inoculation of cultures of streptococci derived from human cases of poliomyelitis are considered by some investigators to be poliomyelitis; but the identification of these infections with poliomyelitis is not established.

fever and various other familiar endemic infections.

The area of occurrence of poliomyelitis is practically world-wide; but while the disease has been reported from all quarters of the globe, its prevalence has been generally higher in the temperate zones than in the tropics. Moreover, in this country, epidemics have been more frequent and severe in the northern than in the southern states; and a similar relation to latitude is apparent in Europe. It may be noted in passing that a generally similar geographic distribution is characteristic of diphtheria and scarlet fever, and that the fundamental reasons for the relative immunity of tropical and sub-tropical areas are as obscure in these diseases as in poliomyelitis.

Cases of poliomyelitis occur in all months of the year; but the highest prevalence falls in the summer and autumn months. This seasonal distribution is unlike that of diphtheria, scarlet fever, measles and most other diseases which are recognized as respiratory tract infections, but is strikingly similar to that of digestive tract infections such as typhoid fever and dysentery. Whether or not the analogy to known digestive tract infections in seasonal distribution outweighs the experimental evidence indicating that poliomyelitis is primarily an infection of the respiratory tract is a question on which judgments may well differ.

With respect to the number and grouping of cases, poliomyelitis occurs sometimes sporadically, sometimes in localized outbreaks, and sometimes in widespread epidemics. But even in what we call "intense" epidemics it is characteristically a disease of low prevalence, seldom attacking more than one or two per thousand of population in any large area, while it frequently happens that only one or two cases may be found in a whole county. Notwithstanding this low prevalence, an epidemic of poliomyelitis tends to decline quickly in any given community; and areas which have been visited by a severe epidemic seem to be immune thereafter for some years, even though the disease may become epidemic in adjacent territory.

Because of this limited prevalence we may describe poliomyelitis as a highly selective disease which, in passing over a community, picks out only here and there a victim for attack. This feature, however, is not peculiar to poliomyelitis, for all infectious diseases are more or less selective, the peculiarity of poliomyelitis being that the explanation of its selection is not obvious. For instance, accepting the experimental evidence that poliomyelitis is directly communicable from per-

son to person, it reasonably might be expected that the disease would be quite highly prevalent in persons known to be exposed to infection in this way and, conversely, that it would usually be possible to trace definite lines of contact between successive cases.

It is found, however, that of those who contract poliomyelitis comparatively few have been closely associated with any previous case. For example, in a number of carefully studied epidemics less than 25 per cent of the cases have shown any kind of traceable contact, either direct or indirect, with any previous case. In the remaining 75 per cent careful investigation has failed to discover any evidence of such contact, and in many instances the circumstances have been such that the only possible personal contact with any previous case of the disease must have been through a circuitous chain of intermediaries. It is evident, then, that in poliomyelitis the infection is frequently contracted from *concealed* sources, presumably from unrecognized cases or from carriers of the virus; and it may also be inferred that in a community where the disease is epidemic these concealed sources of infection are very much more numerous than frank cases of poliomyelitis.

Again, if the disease is directly transmissible from infected persons, those who live in the house with an acute case must usually be intimately exposed to infection; but it is comparatively rare to find more than one case in a family. To this rule there are exceptions, for in some intense epidemics multiple cases in the family have been common; and in general their frequency depends to a large extent on whether or not abortive and suspected cases are included in the record. Still, it is generally true that multiple cases in the family are much less common in poliomyelitis than in diphtheria, scarlet fever or measles. The best explanation seems to be that a fairly large proportion of people are insusceptible to poliomyelitis.

The distribution of poliomyelitis in nature indicates to us the kind of people who are selected by this disease. Statistical studies show that the well-to-do and the cleanly suffer in about the same proportion as the poor and the uncleanly; and that the occurrence of the disease bears no clear relation to previous state of general health, nutrition or habits. However, certain characteristic selections are definitely established. First, children are attacked much more frequently than adults, the attack rate being highest at ages under five years and declining rapidly thereafter. Second, epidemics have usually been more severe in

small towns and country districts than in large centers of population; and in large cities which have suffered epidemics the attack rate has usually been higher in the suburban districts than in the more congested central areas. A third fact of importance is that the relative immunity of adults as compared with children is much more striking in large cities than in the country. For instance, in New York City in 1916 there were sixty-four cases in children under five to every case in an adult, whereas in the Iowa epidemic in 1910, which was principally in rural territory, this ratio was only six to one.

These features of poliomyelitis find some analogies and a possible explanation in the epidemiology of such familiar diseases as measles and diphtheria. Both of these diseases are directly transmitted from person to person; and, like poliomyelitis, they are selective in that they usually occur in children. The reason for this in measles is obvious, since one attack confers immunity, and the great majority of persons past ten years of age have already suffered a recognized attack of this disease and become immunized thereby. The chance of escaping this immunization in early life is greater in the country than in a large city, hence measles in adults is relatively more common in rural than in urban populations, just as is poliomyelitis. Also, the most intense epidemics of measles occur not in large cities but in the country, for the obvious reason that in large cities the population is kept highly immunized by the endemic prevalence and frequently recurring small epidemics of the disease.

In diphtheria similar facts require a somewhat different explanation. Not more than 10 or 15 per cent of adults give a history of having had this disease; hence, the relative immunity of adults is not accounted for by prior attack of clinical diphtheria. However, it is demonstrable, by means of the Schick test, that a considerable proportion of people who have not had clinical diphtheria have sufficient antitoxin in their blood to render them immune; and there is good reason to believe that this is a specific immunity, acquired as the result of previous infection with the diphtheria bacillus, but without symptoms of the disease. The principal reasons for this belief are: that bacteriologically demonstrable carrier infections with the diphtheria bacillus are sufficiently common to account for the observed prevalence of immunity; that the proportion of immunes increases with age, just as in measles; and that, at any given age, the proportion of immunes is higher in city dwellers than in rural

populations. So, with the aid of bacteriological examinations for the identification of carriers, and Schick tests for identification of immunes, we are able to show quite definitely that diphtheria is an infection which is very highly prevalent, but which does not necessarily cause the disease, the more usual result being establishment of immunity without symptoms of illness.

Taking into consideration the experimental evidence which indicates direct transmission of the poliomyelitis virus from person to person, the theory which seems best to explain the distribution of the disease in nature is that its epidemiology is essentially similar to that of diphtheria. This conception implies that specific infection with the virus is quite common, perhaps as highly prevalent and as readily communicable as measles, but that the infection usually runs its course without giving rise to recognizable symptoms of the disease, and that these sub-clinical infections are an important factor in establishing immunity to the disease.

For the present this view of the epidemiology of poliomyelitis is based to a large extent on indirect evidence, as we lack simple means for testing immunity to poliomyelitis and for investigating on a large scale the frequency of carriers. If and when such means of observation are developed we may expect that they will afford direct evidence either for or against this theory. Or it may be that new light will be thrown on the subject from some other direction. In the meantime, we can only base our views on the facts that we have, and though other interpretations have been offered, I think it is correct to say that the view which has been presented here is the one which is now most generally held by students of the subject.

If the infection of poliomyelitis is as prevalent as has been inferred, the isolation of known cases and their immediate contacts offers little hope of effective control, since the carriers who will be left at large will probably greatly outnumber those that may be isolated. This does not mean that isolation of cases and known contacts is necessarily useless. On the contrary, a known case of poliomyelitis is a known focus of danger, and though cases among immediate contacts are relatively rare, still they are much more common than in the general population. Hence, it would seem to be obligatory to give the public the benefit of whatever protection isolation may afford even though it be admittedly a small protection. There is also the possibility that exposure to a casual carrier of the virus may be less dangerous than exposure to an actual case of the disease. As

regards poliomyelitis this suggestion is altogether hypothetical; but it is at least reasonable and is supported by some evidence in the epidemiology of diphtheria. Also, we may at least suspect that different strains of poliomyelitis virus may be of different virulence and that continued systematic isolation of the frank cases may tend, in the long run, to limit the prevalence of the more virulent strains.

Although there are sufficient reasons for practicing isolation this should by no means be the only measure of attempted control. It is probably equally or more important, in the presence of an epidemic, to keep young children as far as possible out of contact with the general public, and to keep children's institutions in actual rigid quarantine, as was done in New York City in the epidemic of 1916, apparently with some measure of success. A further measure, perhaps of greater importance than all others, is to establish and maintain an efficient organization for expert after-care of the paralyzed cases, limiting, so far as possible, the damage done, and giving the victims the best opportunity for rehabilitation.

Discussion

Dr. Fred W. Powers, Waterloo—As I listened to this very able address giving the history and progress of poliomyelitis in our own territory, and as I have from time to time had quite a bit to do with the question from the public health standpoint, it occurred to me that it might be of interest to review briefly the diagnostic points of this disease. Symptoms include vomiting, constipation, diarrhea, coryza, bronchitis, irritability, drowsiness and sometimes severe prostration, convulsions, perspiration, general hyperesthesia, headache, pains, their character depending upon the area of the cerebrospinal axis in which the virus locates. Transient pains disappearing as paralysis appears, indicates posterior horns involved. Persistent pain coexisting with paralysis indicates disturbance of the sensory nerves with some meningeal involvement, and when locating in nerve trunks suggests motor and sensory neuronitis. Usually some elevation of temperature, although some cases run a course without fever. The pulse rate is much increased above the normal ratio to temperature curve. The younger the child, the higher the temperature, the more likely to convulsions. Besides irritability there sometimes is much excitement, restlessness, anxiety, mental confusion, apathy which may lapse into delirium, although there is a general tendency to retain consciousness, and coma is rare until very late. Not unusual to have the contractures of the spine common to meningitis in the cases involving cerebral centers. Kernig's sign is sometimes present. Muscular twitching and tremors occur and are more noticeable during sleep. Early in the disease patellar reflex is exaggerated but is diminished on the appearance of paralysis. It may be abolished

on one side and increased on the other. After a few days the fever disappears and the motor paralysis is then noticed. The paralysis may involve muscles of deglutition, respiratory muscles or any of the extremities with the electric reactive changes common to such a condition. The paralysis of the muscles is almost invariably of associated function, especially of the spinal form. With a fairly positive symptom complex, probably next to rigidity of the neck and spine the most important diagnostic agent is lumbar puncture to determine the cell count and test for globulin. These later findings can only be depended upon as confirmatory to clinical manifestations. In the cerebral form the cell count may not be increased, yet the clinical symptoms may be positive. Forms—There are many different forms of the disease suggesting different classifications, as paralytic and non-paralytic, or again as—(A) Abortive, which may excite your apprehension in the prodromal period and all symptoms apparently subside, only to develop more severely in a few days. (B) Other abortive cases of general infection and those of meningeal irritability and some of the more painful symptoms common to "flu" and those with the gastrointestinal symptoms marked. Any of these abortive forms may be brought to your attention again in a few days with some flaccid or more pronounced paralytic condition of some associated functional group of muscles. The abortive form is usually more common to the poliomyelitic form. (C) Landry's form involves more generally the muscles of respiration indicating respiratory center infection. (D) Bulbar form, meaning the bulbar and brain forms, which may occur collectively or separately, and very commonly picks up the muscles of deglutition, eye and facial muscles. Other forms are the cerebral, ataxic, and meningitic forms. The spinal involvement alone is seldom fatal. The respiratory and bulbar has a higher mortality. In poliomyelitis the paralysis is flaccid, the muscles atrophy and reflexes lost. The muscles involved are usually functionally associated and monoplegia is the rule. In cerebral form, the paralysis is spastic with reflexes exaggerated, arrest of muscular development and associated anatomical muscles involved. The paralysis usually being hemiplegic. In cerebral palsies the cranial nerves, particularly the facial, are often involved.

Dr. Tom B. Throckmorton, Des Moines—I have always been intensely interested in poliomyelitis, and wish to express to Dr. Frost my personal appreciation for what he has done in coming here and delivering this able address on so important a subject. The two factors in poliomyelitis which chiefly perplex me are: First, how are we to diagnose a case of poliomyelitis in the absence of motor paralysis? True, in an epidemic we may suspect any individual, particularly a child exposed as most children are to the virus, of having the disease in the presence of fever, lassitude and perhaps some small changes in the spinal fluid, but when we are not able to take the washings from the nasopharynx and inject the same into a monkey to make the diagnosis

positive, personally I am at a loss to know how one could safely say that this child or this individual having these symptoms of malaise, fever, and lassitude, is or is not a case of poliomyelitis. Second, the other problem with which I have come in contact repeatedly is the isolated case which Dr. Frost so ably spoke about in his address. I have seen that any number of times when I have been called into a community where there has been no case of poliomyelitis previously reported, only to find in time that the individual was ill with that disease. Where do these contacts come from? I have wondered many times how it is possible for the virus of this disease to come into an isolated community and appear here as a carrier, leaving a case of isolated poliomyelitis. The physicians of Iowa appreciate very much the honor which Dr. Frost has conferred in coming all the way from the capital of the nation to appear before us and present this talk on poliomyelitis.

Dr. Henry Albert, Commissioner, State Department of Health, Des Moines—I should like to ask the profession of the state to report to the health department as quickly as possible when ever they have a case of poliomyelitis, or, for that matter, any other communicable disease. The report should be made to the local board of health, i. e., the local health officer who in turn will transmit the report to the State Department of Health. The data presented by this chart will seem, perhaps, a little surprising to most of you. On this side we have the number of cases and deaths, from poliomyelitis reported to the Iowa State Department of Health last year (1927). The number of deaths was twenty-nine, the number of cases reported 109. The proportion was about one death to every four cases reported. Now if we compare the ratio between cases and deaths reported throughout the country, i. e., the registration area, we find that for every twenty-nine deaths there were 480 cases of the disease reported; in other words, one death for every fifteen cases reported. There are two possible conclusions, and perhaps I might let you make your own. One is that the physicians of Iowa are less competent than the physicians of the country as a whole, in that we have one death in every four cases reported while in the country as a whole we have one death in every fifteen cases. That conclusion is not warranted. We have the same situation in diphtheria. The proportion of diphtheria deaths to cases reported is considerably higher in Iowa than in the country as a whole, but the death rate per 100,000 population from diphtheria is less in Iowa than in the country as a whole. So from this we might conclude that the physicians of Iowa are more competent than those of the country as a whole. Certainly none of us will admit that they are less competent. The fault then

lies in the fact that all cases are not being reported. I am sure you will appreciate that we who are dealing with public health matters and are making an attempt to serve the state from the standpoint of preventing disease, are not only seeking to prevent the development of a case here and there, but are taking the larger view which has to do with the preventing of epidemics and not merely controlling them after they appear. We would like to be able to tell you as physicians and also the people of the state rather early in the season whether or not there will probably be an increase in the number of cases of infantile paralysis this year. We ask you therefore to report your cases of poliomyelitis and other communicable diseases just as promptly as possible.

Dr. George L. Dixon, Burlington—Dr. Frost said something about carriers, but only in a general way. We personally have seen five cases of acute poliomyelitis where the mosquito seemed to be the carrier. That would not, of course, explain those cases that occur in the winter months, but in the five cases we saw the mosquito seemed to be the carrier.

Dr. Frost (closing)—Answering Dr. Throckmorton's question in regard to the diagnosis of poliomyelitis in the absence of paralysis, of course it is not always possible to make a diagnosis when there is no paralysis. But there is a certain proportion of cases in which the symptoms, even without paralysis, are fairly characteristic. Especially distinctive are the indications of a low grade meningitis—some stiffness of the neck and rigidity of the spine and motor disturbances demonstrable on careful examination, but likely to be overlooked if the patient is not closely examined. Such disturbances may be loss or exaggeration of tendon reflexes, weakness of certain muscles without paralysis, or ataxia, such that the patient may move his limbs but cannot coordinate his motions. With these we may find symptoms of gastrointestinal derangement strikingly like those observed early in associated paralytic cases. In the presence of such suspicious symptoms the diagnosis may be checked by lumbar puncture. As to the suggestion that the mosquito may be a carrier of poliomyelitis, this suggestion has frequently been made, but I think we have not a bit of positive evidence for it and there is a good deal of evidence which seems negative. Experimentally it is very difficult to produce poliomyelitis by injecting the virus into the blood stream, the only way in which the mosquito presumably could transmit the infection. Then again, we must consider the fact that quite severe epidemics sometimes occur in winter, when mosquitoes certainly are not active. The relation of insects to the disease has been carefully studied and I think the weight of evidence is definitely against insect transmission.

MEDICINE: ANCIENT AND MODERN*

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Records unearthed in Egypt indicate that 8,000 years ago, there existed two separate and distinct schools of medicine. The one orthodox; officially recognized, the other a new school without standing or official recognition. The official school taught that disease is a result of errors in living habits, a self-created affair, and to be treated solely by a correction of these errors. This meant, the application of the so-called natural method; sunlight, fresh air, baths, massage without drugs or other supposedly unnatural methods.

The newer school taught, that disease is an extrinsic affair, causes that were extraneous to the body itself and for which the individual was not to blame. This led to the application of external means, the personal assistance of those trained in the administration of certain ingredients and the employment of surgical means in selective cases.

The Egyptian law provided that if the sick were treated by the recognized and official means, recovery was a matter of reaction to the natural means employed, and, was a personal affair wholly, and as a result, no blame could be attached to the physician who ministered the natural means employed. On the other hand if the newer and unrecognized means were employed the success or failure rested solely with the one who applied the means, therefore, death was blamed on the physician and he was compelled to pay with his life for the life of the patient. Even as late as the fifteenth century, this same law was in effect though with less drastic penalties, e. g.: if a doctor lost a common man, he was compelled to furnish his lord with another man to take the place of the one who died. If by chance it was a so-called gentleman he was treating and he did his patient any injury, the physician was subject to a fine. If the so-called gentleman died, the unfortunate doctor was placed in the hands of the deceased relatives who were permitted under the law to do with him as they saw fit.

During the early period of medical history, there were times when it appeared that it was making real progress, unfortunately, however, these epochs of advance were followed in many instances by reactionary measures which were instrumental in destroying that which had recently been accomplished. So great was the prejudice

against this art, that any new theories advanced were at once regarded with suspicion. The result was, that any period of medical history which contained some things of real worth, might be wholly rejected by a succeeding generation.

The venerable reproach that medicine is only a matter of fashion and empiricism is still flipantly thrown at the profession. While we admit that some branches of medicine are not yet sciences, still each of them is established on a scientific basis, and is gradually becoming more and more "The organized growing body of real knowledge", which a science is held to be. The ancient prejudice against dissection kept back anatomy and physiology for 2,000 years. Then, too, the innate horror of sickness and death in the primitive mind made mysticism and quackery more acceptable than patient sensible work. This along with the low repute attached to those who were endeavoring to advance scientific knowledge hindered the growth of this science for more than 1,000 years. The Greeks may be regarded as the real founders of medicine and Aesculapius, whether a myth or not, was associated with its early development. He is supposed to have lived about 1200 B. C. The poets made him the God of Medicine and all over Greece, temples were erected in his honor. In these temples presided a priesthood who claimed to be his lineal descendants and the heirs of his medical knowledge. They were the only physicians of those days and carefully kept in their order, the secrets transmitted to them. Their secrets, however, consisted of no definite scientific knowledge, either of the body or its ailments but simply of certain hygienic rules, the use of a few medicines like cathartics and emetics and more than all the employment of suggestion and appeals to the credulity and imagination persuading the patient that the God was interfering to cure him. Thus an Aesculapian temple was a sort of a sanitarium or retreat, in which hygiene, empiricism and religious imposture were practiced.

Hippocrates lived about 460 B. C. His influence lasted in a more or less modified form for 2,000 years. He was a close and careful observer. No one ever described the symptoms of a disease with more graphic concision. He taught his followers not to be guided by theories alone, but to notice symptoms closely and to try and meet each indication. Nor, were they to adopt any principle which was not the rigid inference from many facts, with the inculcation of more rational principles of investigation. His teachings became the means of separating, to a certain degree at least, medicine from jugglery and priestcraft.

*President's Address delivered before Austin Flint-Cedar Valley Medical Society. Mason City, July 11, 1928.

Unfortunately, many of the principles he so strongly advocated were not long adhered to. One of the greatest documents penned by mortal man is the oath of Hippocrates. Think you that there lives a man today who could give to the world a truer conception of the obligations the doctor owes to his patients and fellowmen than that Hippocrates gave?

Plato who lived thirty years later contributed some very naive theories to physiology. He believed that all knowledge came from within. It was to be obtained by an intellectual isolation in which the final causes were apprehended, from which the particulars are to be deducted. He believed the body to possess two souls, one for the head and one for the trunk. The latter was divided into two portions which was separated by the diaphragm, the upper presiding over the passions and the lower over the digestive functions.

About a half a century later came Aristotle, who, unlike Plato, taught that all knowledge came from without through the medium of the senses. He taught that in studying a subject we must first obtain a general idea of it and then investigate its particulars. He was supplied with a great number of animals for dissection by his pupil Alexander the Great. Naturally he made some mistakes in the inferences he made from them regarding the human body. Yet his animal dissections gave to the world a vast amount of knowledge. He discovered the nerves and taught that the heart is the origin of the blood-vessels. He also described the brain and its membranes. His observations laid the foundation of comparative anatomy and physiology.

Ancient medical history gives the Egyptians credit for having the first medical school which was known as the Alexandrian library or school in honor of Alexander the Great. This school was placed in charge of Aristotle. The exact date of its origin is probably not a matter of record. Medicine at last had become an organized science study, investigation and experiments were carried on with unwearying activity. This school gained such a high reputation that for 500 years it gave anyone great prestige to have studied at Alexandria. Dissection of human bodies was permitted, and that which had heretofore been forbidden was now encouraged. It was then taught that the nerves were organs of sensation. The duodenum is a part of the nomenclature of that day. About the middle of the third century B. C. many medical men, mostly Greeks, went to Rome. They saw the advantage of a large city where they would have greater opportunities and could receive larger fees for

their work. Because of the fact that many of them proved to be adventurers and charlatans, there was a growing contempt for medical men. During the latter centuries there was a great deal of wrangling, jealousy and ill feeling among the physicians of Rome. Some of them would set up small schools and lecture to all the pupils they could gather. This became so prevalent that it was customary to bid for students by promising to fit them for practice in six months! (Palmer). The condition known as epilepsy was evidently as well understood in those days and its treatment about as scientific as is our treatment at the present day. The following was a favorite prescription, and I am not so sure that it was as effective as anything we have today, pharmaceutically perhaps, not as elegant. Rx—Brains of camel, rennet of sea-calf, excrement of crocodile, heart of hare, blood of turtle, testicle of wild boar. If Harrower has anything on this one, then I haven't read all of his literature.

Galen was one of the most scholarly men of his generation. He was an indefatigable experimenter and a prolific writer. There was scarcely a subject in medicine and few outside of it about which Galen did not write. His books number over 700, and while he was a man of great genius, noble ambitions and marvelous learning, much of his work was based on false physiological theories. Yet, comparatively speaking, it gave to medicine a certain brilliancy. However, this brilliancy was only temporary.

For following the Galenic period, medicine plunged into the darkest age of its history, and this reaction of progress continued into the fifteenth century. Medical knowledge had become so lifeless and inert that it is referred to as the "Age of Coma". The art was in such ill repute that it again fell to a large extent into the hands of the clergy who depended fully as much on prayers and relics as upon physics. As was previously mentioned, there was a time when human dissection was permitted and encouraged. This period which was capable of doing so much in the way of adding to the science of medicine was only permitted for a short time, and for 1700 years, dissection was again forbidden.

The medieval mind could not surrender its awe, reverence and superstition for the cadaver, and it was not until well in the sixteenth century that the dissection of human bodies was regarded as imperative to the advance of medical knowledge. Following the recognition of this fact, the study of the human bodies was pursued with the greatest diligence and enthusiasm and as a result, remarkable advance was made. That was in reality

the beginning of modern anatomy and surgery and may be regarded as the line of demarcation between ancient and modern medicine.

In the sixteenth century, Harvey startled the world by being able to demonstrate that the blood actually flows through the bodies. In 1798, the civilized world became aware of the fact that smallpox, one of the filthiest diseases to which the human race is heir, is a preventable disease. Jenner began his investigations of this disease in 1775 but it was not until 1796 that he was able to prove its validity and in 1798 he prepared a pamphlet announcing his discovery to the world.

There was a time when it was thought that certain or even all forms of life might spring into existence from inanimate things and was known as "spontaneous generation". Maggots found in the bodies of dead animals were believed to have been the result of the flesh of the animals turning into maggots. No explanation for the maggots being there could be given excepting through the theory of spontaneous generation. As an example of substantiating the soundness of this theory, one authority of that age called particular attention to this fact; if a pile of rags and a few morsels of bread and cheese were placed in one corner of a cellar, that the bread and cheese would in due time, turn into mice, for a later investigation of the pile of rags would reveal the fact that instead of finding bread and cheese, you would find in lieu thereof—mice. (Perfectly logical.)

Pasteur gave to the world the true conception of the role bacteria plays in health and disease. The first disease to be understood, in even a meager way from the standpoint of bacteriology, was anthrax. The rod shaped germs were seen in the blood of animals, dead of this disease, by Polander, as early as 1849, but it was not until 1863 that it was definitely proved beyond a reasonable doubt, that they were the cause of the disease. Time will not permit, neither is it necessary before an audience such as this, to dwell upon the individual achievements of such men as Jenner, Pasteur, Lister and a vast number of eminent medical scientists. Practically everything which enters into the equation of modern medicine as we see it today is not the work of 8,000 years but the results of a rapid evolution comprising a comparatively few hundred years, and I feel that I am safe in saying that there has been more real advance in the past 150 years than in all the years of which we have any records.

Disregard for the moment what the science of medicine has done and go back to the days when

Black Death, now known as Bubonic plague, stalked the then civilized world. In 1348 and 1349, twenty-five million, or approximately one-fourth of the entire population of Europe died of plague. In 1664 and 1665 the population of the city of London was reduced 70,000 souls as a result of this same disease. At one time Rome, then a city of a million people, lost as many as 10,000 in a single day.

From 1904, to and including 1917, there have been nearly five and one-half millions of deaths from plague in India. Statisticians claim that at our present birth rate, if we had as little knowledge of the cause and prevention of diseases as India has, the time would come when this country would be entirely depopulated. Many will be surprised to know that plague is constantly with us in the United States, particularly California, but also recently in Texas, Louisiana and Florida. From 1900 to 1920, there were 389 deaths from plague in United States. In 1907, there were 170 deaths in California alone. It is estimated that the rat costs the government approximately \$175,000,000 a year, to say nothing of the menace to human life in plague infected areas, and yet how little concerted effort is being made in an attempt to exterminate this loathsome vicious rodent.

During the first years of our medical experience, many of us recall that little or nothing was known of the numerous agencies now employed which have become an intricate part of the science of medicine of today. Diphtheria antitoxin in our early medical experience was comparatively new and certainly much more bulky and more inconvenient to administer. The various other sera, vaccines, antitoxins and toxin-antitoxin were unknown. We knew nothing about x-ray or radium. Blood chemistry was practically undreamed of. We knew nothing of intravenous therapy. Before the days of insulin we had to resort wholly to diet in connection with the management of diabetic cases, and in those cases with a low sugar tolerance it was utterly impossible to maintain a perfectly balanced ration.

Many of us are able to recall the time when the word diphtheria would cause a panic of fear in any community. It was a terrible thing to contemplate the possibility that one's child might contract this disease which the doctors were unable to hold in check or successfully treat. Practically 50 per cent of the cases died a horrible, choking, black-faced death. Diphtheria is today, perhaps better understood than any other transmissible disease, and were it possible to obtain proper public cooperation it could, in a short time, be entirely wiped off the face of the globe. The

treatment and prevention of scarlet fever is rapidly approaching this high plane of efficiency.

During this kaleidoscopic era of therapeutic advancement, numerous agencies have been given considerable publicity. For example, the Koch cancer treatment, which according to the literature reaching our desks, has a definite place in the armamentarium of scientific medicine. Either fortunately or unfortunately, its therapeutic efficiency has not been generally accepted. With greater experience and longer observation, it will either be accepted by the rank and file of conscientious, aggressive, scientific medical men or its use will be limited to the mercenary quack whose chief aim seems to be the exploitation of the various methods and nostrums for which they claim marvelous or miraculous cures.

Yellow fever will probably be the first disease to be completely eradicated. You are all familiar with the work of General Gorgas. Havana, once a hot-bed for this dread malady, is as free from yellow fever today as Mason City, Iowa. There has not been a single case in that city since 1905. In 1853, there were 8,000 deaths from yellow fever in New Orleans, a terrible mortality considering the size of the city at that time. It had spread as far north as Quebec and one of the worst epidemics occurred in Philadelphia in 1773, at which time 10 per cent of the population perished.

Without the knowledge of the etiology, and, as a result, the extermination of the *Stegomyia* mosquito and confining the *Anopheles* to remote areas, the building of the Panama Canal would, in all probability, have been as colossal a failure as it was in the hands of the French government. If you have never read the life of General Gorgas, I would suggest that you read it. It is most fascinating and is one of the few books which gives the world a true conception of the handicaps, hardships, sacrifices, and finally the glorious revelation of what scientific medicine has accomplished in the line of preventing disease.

There are few diseases which present such striking contrasts of the past with the present as smallpox and typhoid fever. "The proverbial peck of dirt is not essential." We now know we should abstain from the use of flies, both raw or cooked. Death rates from typhoid about 150 per 100,000 were not uncommon, whereas now a few cities have rates below one and in 1923, the average for the entire United States registration area was 6.8. Even as late as 1910 it was estimated that there were a quarter of a million cases in the United States in one year. Were we to exercise as much care and diligence in exterminating the common

house fly as General Gorgas and his co-workers did in Cuba and on the Canal Zone in connection with the extermination of the *Stegomyia* and *Anopheles* mosquito, we would demand greater care in handling and marketing food products. Were we supplied at all times with pure water, this along with the judicious use of typhoid vaccine, typhoid would not longer exist.

While it is not necessary that each person be vaccinated as a routine in civilian life, it is certainly a safeguard for certain individuals, such as soldiers, sailors, doctors, nurses, and those who may be compelled to live temporarily in unsanitary conditions. Quite often we have cases develop following a "vacation trip". These people have been drinking water from springs or wells which are contaminated with typhoid. (Not all spring water is pure.) We believe that it would be a good practice to be vaccinated before starting on your summer vacation. We should remember that the immunity is not an absolute immunity, and will not last in all probability over three years. In case of heavy exposure, the vaccination should be at more frequent intervals.

The pages of history are made luminous by the heroic deeds of those who have led legions across fields of battle. Their gallantry and chivalry has created within us a patriotism for our country. But what of those, who in the stuffy air of a laboratory, or perchance in some dismal tropical swamp, where the mortality from disease may be even greater than that due to high explosives from the enemies' guns; the rain of lead from bursting shrapnel; a volley from a platoon of infantry, or the staccato notes of machine guns, spitting their spray of steel. Their only weapon, the test tube and the microscope. They have no malice or revenge in their hearts. No flags waving. They hear not the beating of drums or the stirring blast of the bugle. No comrades to cheer them on to victory, subjected more often to harsh criticism and ridicule. Yet alone they fight the arch enemy of every living thing; disease and death, many giving their lives willingly as an offering upon the altar of scientific investigation.

Through their sacrifices and untiring efforts, modern medicine has saved more lives than all the armies of the world have been able to destroy. Yet, they are permitted to pass on, comparatively unnoticed. But as they go, to us they have thrown the lighted torch. We, the medical profession, have accepted the challenge to carry on; to fight our way across the ramparts of disease. We hope, some day, to be able to conquer malignancies, cardiovascular-renal conditions, pernicious anemia, anterior poliomyelitis, epilepsy—which

lie hidden and fortified in yonder jungle of uncertainties. When our dreams of scientific investigation of these and numerous other conditions come true, and the deadly effects of their ravages is finally brought under submission—then we will have given to the world, freedom from pain and disease, increased efficiency, happiness and lengthened life. That, gentlemen, is the final goal of scientific medical achievement.

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TREATMENT OF ACUTE BONE INFECTIONS BY THE ORR METHOD*

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Within the realm of the term "acute bone infections" may be included osteomyelitis, compound fractures and wounds which bring the bone itself in contact with the outside world.

Although many cases of osteomyelitis give a history of injury there are many others in which no history of injury can be gained from the patient or from those intimate with him. Therefore most authorities agree that although an injury to the soft parts and periosteum may assure a pleasant medium for bacterial growth yet there is a very large group of osteomyelitis cases that develop below the cortex and cause exactly the same symptoms that are supposed to be due to injury, therefore some foci of infection remote from the primary bone infection must contribute the bacteria through the blood stream which causes the disease process in either event.

The case is quite different in compound fractures and in compound wounds. Contact with foreign material or infected material may be in this instance responsible for infection. It has been our observation that compound injuries owe their origin of infection to three sources: first, at the time of injury; second, at the time of primary treatment; third, at the time of secondary treatment and surgical dressings.

We must assume that every compound injury has a certain amount of primary infection carried into the wound by the force or violence which brought about the injury. Of course the amount of infection depends upon the contact with foreign material, the damage of the tissues, and the character of the bacteria that are introduced. That many of these infections of the first type

that are introduced into the wound at the time of injury are not always severe, is quite evident from two facts: first, because we have become accustomed to performing thorough debridement on all such cases, removing all possible severely injured tissue and infected material which formerly would have suppurated for a long period of time, and in the second place, we have recognized the fact that after such a procedure we may in many instances perform a primary closure of the wound by suturing and have the wound heal by first intention.

The greatest difficulty, however, arises in the selection of patients for primary closure after debridement. We have no laboratory test that will assure success and many of these wounds break down and even after secondary attempts of closure are made they break down and go through the course of months and years of dressings with a chronic suppurating infection and perhaps non-union develops.

In consequence, results of primary closure vary therefore with the severity of the injury and the amount of infection and the skill and the judgment of the surgeon. But it does seem folly to recommend primary closure as a general measure. One must have vast experience, constant contact with many cases, in order to assure a surgical judgment that will permit a selection of the right cases for this treatment.

The second group of cases comprises those that have become infected during and as the result of, their primary treatment. This group comprises a much larger number than one ordinarily thinks. It has been our experience, and from the foregoing statements, we may at once assume that a considerable number of these cases become infected through the secondary traumatism and the transplantation of infected material at the time of the debridement and in the course of suturing and by the insertion of drainage tubes and imperfectly sterilized dressings and instruments.

We believe that no matter how dirty the case may be that the more care should be used in preparation, the importance of wearing a mask, careful scrubbing of hands and the sterilization of dressings, gloves and instruments. I once heard a very experienced surgeon assert that "one might spit in the abdomen and get away with it" but my experience with bone surgery would lead me to feel that one should not breathe upon a bone wound without the possibility of carrying a deadly infection into the wound. Unfortunately, we are in no position to say how many such wounds become infected in such a manner.

*Presented before the Woodbury County Medical Society, Sioux City, Iowa.



FIGURE 1

Left—Lateral now showing sinus through cortex into medulla.
Right—Round periosteum.

Another class of cases that fall in this second group and it is surprising how many of these come to our clinic with very extensive osteomyelitis following compound fractures that have been plated or have had wire fixation or that have been drilled with holes or tied with kangaroo tendon and the like. It is indeed deplorable that surgeons continue to follow such a malicious practice and expect to inspire the confidence of the laity when we recognize that the use of plates in the hands of the most skillful and under the most aseptic conditions so often develop complications.

The third group is even larger than the second and it embraces those cases that in the beginning might have been treated by primary closure and in many instances have successfully gone through the primary treatment without additional trauma or infection in the hands of the surgeon, but they come into this third class by becoming infected at the time of a later operation or through the daily or frequent dressings, drainage tubes and antiseptic washings that they have received.

The method of treatment herein outlined is a standard method for dealing with all these conditions and one in which variation in the amount of infection, virulence or the organisms, the resistance of the patient and the judgment of the surgeon, are all factors that may be to a great extent disregarded. And, it is one which has gained prominence through the efforts of my partner, Dr. H. W. Orr of Lincoln, and has been used in our clinic for several years with great success, and whether you take it or not, it is a method which can be used by any one and considered "fool-proof". It is based primarily on the teachings of John Hilton and Hugh Owen Thomas that absolute rest, after all, is one of

the most important factors in bringing about healing of any pathological process in the body.

I shall not go into the theory but shall limit my remarks entirely to the practical application as it has been used in hundreds of cases at all times with uniform pleasing results.

The fundamental factors which enter into the treatment of compound fractures—that is, maintenance of the fragments in as nearly normal apposition and alignment as possible, and the prevention of contracture deformity, promotion of good circulation, early repair and ultimate resumption of as nearly normal function as possible; are the same as should be considered in osteomyelitis due to infection carried through the blood stream.

Not infrequently do we see these old osteomyelitic patients come into the clinic with disabling fixed flexion contractures of the knee, equinus deformity of the foot, and adduction deformity of the hip, all due in every instance to the fact that adequate immobilization and fixation of parts is not carried out during the entire course of his treatment, thereby making it necessary for this patient, after months, perhaps years, of suffering with the osteomyelitis, now to seek correction of deformities which should never have been allowed to occur. Therefore, the complete immobilization in plaster of Paris casts embracing the entire extremity or the joints above and below the site of the disease is absolutely essential.

The second fundamental factor in the success of this treatment is absolutely adequate drainage of the bone cavity. By that we do not mean that you should remove all the dead bone or curette the medulla. We mean a sufficiently large open-



FIGURE 2

X-ray five months after operation. Shows defect in shaft due to operation but bone healing has taken place.

ing in the bone through the cortex, wide enough and long enough to permit absolutely free drainage.

Then, lastly, comes the vaselin gauze pack which acts really as a splint to the soft tissues holding open the wound cavity so that healing may start in the deepest recess of the wound and proceed outward.

There is one more factor in this treatment that is entirely essential to its successful use. Desire to alter or change the technique employed will very likely interfere with the ultimate possible satisfactory result.

The technique is as follows:

For example, a fracture of the femur or osteomyelitis of the femur—the patient is placed on a fracture table and the extremities bound to the traction devices at the end of the table. In some instances it is necessary to use skeletal traction, in others moleskin traction straps may be used depending upon the position and condition of the wound. The region is painted with iodine and draped, incision made and adequate drainage established. Then the entire wound is filled by an iodine sponge followed by alcohol and immediately dried out. A vaselin gauze pack is applied deeply into the wound, not tightly, merely filling the cavity of the wound. Over this is placed a covering of vaselin gauze, then the dressing, sheet wadding and the cast with the limb, of course, in proper position.

If much pull is made on the pelvis as in compound fractures, both legs are placed in plaster of Paris cast. The wound entirely covered over, not dressed for from two to six weeks. The only indication for dressing the wound prior to six weeks is first, a marked increase in temperature, and the evidence of further inflammation which is due to one of two things, either inadequate drainage or another area of infection. Second, too great discharge of pus and foul odor to the wound and in that case only the superficial dressings are removed, the pack remaining. The surrounding skin is cleaned and a new dressing applied.

At the end of six weeks a window is cut in the cast and the dressing removed, the surrounding tissue painted with iodine, likewise the wound which will then be found greatly diminished in size, the vaselin gauze pack being pushed almost entirely out of the wound and in some cases we have found the wound completely healed. If it is not healed, after painting with iodine, it is again filled with vaselin gauze and allowed to go for another three or four weeks until healing has taken place.



FIGURE 3
Healed scar six months after operation.

Not until healing has taken place is the cast removed.

The report of a single case illustrates the uniform result of these acute osteomyelitic conditions when treated as outlined in my paper.

No. 1767—Miss E. P., age twenty, on February 20, 1928, was referred to me by her family physician on account of severe pain, acute swelling in the upper third of the tibia. This was the result of a bruise that she had received two weeks prior in the gymnasium during the course of physical education which she was taking in the university. The symptoms that she suffered had been growing continuously worse and now she could scarcely get about, although she had been on crutches almost entirely since the injury which was thought at the time it happened to amount to absolutely nothing.

Upon examination this young lady proved to be ten pounds under her usual weight, very nervous and relatively negative as to pathology save in the right lower extremity there was a generalized swelling of the leg below the knee, increased redness, pain and tenderness localized in the junction of the

upper and middle third; temperature 102:6. With these factors before us she was sent immediately to the hospital. X-rays were taken which showed a raised periosteum, a small area of bone change in the cortex, the periosteum at which point was lifted one-half inch from the shaft and extended the length of three and one-half to four inches over the crest of the tibia longitudinally. Leucocyte count was 18,000, a relatively normal red count 3,400,000, the differential count showed .75 per cent polymorphonuclear.

Operation was performed immediately. It was found the periosteum had much the appearance of a sarcoma and immediately frozen sections were made with report of small round cell sarcoma, with a question mark, however, as the tissues were lifted back further a small sinus through the cortex into the medulla showing a drop or so of pus and this convinced me that conservative methods should be followed with this case. Therefore the sinus area was opened wide and an abscess in the medulla was drained. No attempt was made to remove all the dead bone, merely a sufficient opening was made to allow drainage of the necrotic material.

The wound was filled with iodine direct and followed by alcohol, again dried thoroughly and packed with a vaselin gauze and placed in a plaster of Paris cast from her toes to her thigh, the knee slightly bent.

This operation was performed February 20, 1928. Her first dressing amounted to the removal of the outer saturated gauze covering on March 17th, the inner pack was not removed. On March 26th the pack was removed. The wound had filled in completely so that there was but a small cavity of soft tissue left. In other words, the vaselin pack had been pushed out by the healing process. There was considerable pus and debris in the cast which had seeped out from the edges of the pack but the cast was not removed until April 2d and a full length caliper splint was applied.

The next dressing was on April 23d. At this time the wound was almost healed. On May 7th the wound was entirely healed. She has been under constant observation since that time and has shown no further evidence of trouble having obtained a complete recovery. X-ray shows no evidence of sequestrum and the defect of the bone is filling in and assuming a normal appearance.

In this case the pack was changed but twice before healing took place. Of course there are cases in which the time of healing is longer and demand more dressings, but these are seldom seen.

PROF. HANS VIRCHOW

Prof. Hans Virchow, son of the famous pathologist, the late Rudolph Virchow, recently celebrated his seventy-fifth birthday in full health and vigor of mind and body. He has achieved distinction in the same line of work pursued by his noted father.

CLINICAL DIFFERENTIATION OF HYPERTHYROIDISM AND FUNCTIONAL DISORDERS*

C. W. BALDRIDGE, M.D., Iowa City

The recent extensive advertising which has familiarized so many people with the alleged preventive and therapeutic value of iodine in disturbances of the thyroid gland, has had at least one inevitable effect. "Goitre" is glibly spoken of in the corner grocery and seriously considered at home. As a result, more and more people present themselves to their physicians for examination in regard to "goitre". Three main groups of these patients will be considered:

1. Hyperthyroidism.
2. Nodular goitre with no demonstrable metabolic disturbance.
3. Psychoneurosis with "goitre phobia" but with little or no palpable change in the thyroid, and with no metabolic disturbance.

In the following discussion the term psychoneurosis will be used to indicate only that special group of patients with functional nervous disturbances in which fear of "goitre" is dominant.

One hundred recently studied cases of each type have been tabulated. Such symptoms, physical findings and laboratory data as are to be used in the discussion are presented in the following table:

	Group I*	Group II	Group III
Average Age	39	28	38
Symptoms			
Thyroid enlargement....	81%	45%	100%
Subjective nervousness	91	93	75
Tremor	45	24	21
Tachycardia or palpitation	95	78	63
Sweating	26	17	10
Loss of weight.....	94	33	21
Shortness of breath.....	72	58	56
Choking	23	42	50
Increased appetite	76	5	10
Tired in mornings.....	12	71	19
Physical Findings			
Facies	71	4	0
Stare	67	11	2
Smooth forehead.....	56	53	34
Lid lag.....	39	12	9
Wide fissures	30	3	2
Exophthalmos	36	6	0
Tension of lower face ...	90	12	7
Hands			
Warm and moist.....	91	11	21

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Clammy	0	75	42
Normal temperature, moist	5	11	8
Dry	4	3	29
Tremor	92	72	65
Throbbing in neck	93	23	12
Quick pulse	99	11	17
Thrill	26	0	0
Bruit	51	11	8
Cardiac enlargement	50	2	15
Pulse rate	126	91	74
Systolic blood-pressure	155	123	132
Diastolic blood-pressure	70	77	79
Pulse pressure	85	46	53
B. M. R.	+43.2	- 3	+2.3

*Group I is 100 non-selected cases of hyperthyroidism.

Group II is 100 cases of psychoneurosis with "goitre phobia".

Group III is 100 cases of nodular goitre without hyperthyroidism.

Percentages indicate positive findings.

Certain well recognized facts must be kept in mind in the analysis of such data as are here presented. The histories were taken by different interns and no uniform questionnaire was followed. The physical observations are very largely my own and are therefore more uniform. However, equally competent observers often disagree on such vague physical signs as facies, stare or tension to the muscles of the face. Such data must, because of the many variable factors, be analyzed and accepted with caution.

The complaint of thyroid enlargement is of relatively little value in the diagnosis of hyperthyroidism. Subjective nervousness is just as common in the functional case as in the patient with hyperthyroidism, and in the patient with a nodular thyroid, nervousness is often impelled by apprehension concerning the enlarged gland. Tremor is complained of by less than half of the patients with hyperthyroidism and is common enough in the apprehensive group so as to be of neither positive nor negative value in the diagnosis. Tachycardia and palpitation are often separated with difficulty by the patient and are therefore considered together. Rapid heart and heart consciousness are almost uniformly observed by the patients with hyperthyroidism but the great frequency of these complaints in functional conditions detracts from their positive diagnostic value. The absence of heart consciousness is of value in the negation of a diagnosis of hyperthyroidism. Only 26 per cent of hyperthyroid patients complained of sweating while the same complaint was made by 17 per cent of psychoneurotics. The difference is obviously too small to be of diagnostic value.

Loss of weight was admitted by 95 per cent of the patients with hypermetabolism and in forty-eight in which seemingly reliable figures were obtained the average loss was 26.6 pounds. Thirty-three psychoneurotics had an average weight loss of 17.8 pounds which seems to have been the result of anorexia, worry, loss of sleep, intercurrent disease and exaggeration. Nineteen patients with nodular goitres presented themselves at least in part because of loss of weight and the average loss was 21.7 pounds which must be attributed to the same causes as in the group of psychoneurotics or to temporary hypermetabolism. Loss of weight was a potent factor in bringing patients in all groups to the clinic.

Shortness of breath is only a slightly more common complaint in those patients with hypermetabolism than in those without. There is, however, a differentiating point in that the psychoneurotic has a subjective feeling of breathlessness, often without exertion, and sighs frequently, whereas a patient really short of breath does not have time to sigh. Choking is more common in "goitre phobia" than in hyperthyroidism in spite of the fact that 32 per cent of the hyperthyroid patients had nodular goitres. In patients with nodular thyroids, choking is often mechanical and real.

The crux of the differentiation between hyperthyroidism and psychoneurosis so far as the history is concerned, often rests on two points: the increased appetite in the patient with hypermetabolism and the tired mornings of the psychoneurotic. The increased appetite and its relation to the loss in weight in hypermetabolism will be taken up more fully later. The complaint of awakening tired after an ordinary night's sleep and feeling better as the forenoon progresses is essentially functional. Often the statement is obtained that the patient is more tired in the morning than the evening before. This complaint, if carefully analyzed, would, I believe, be more common in functional cases than is apparent from the tabulated data.

A history of remissions or crises is quite common in longstanding hyperthyroidism. Nervousness which has continued for years with a rather constant intensity is usually not the result of hyperthyroidism.

The typical facies and stare of fully developed Graves' disease are easily recognized by all, but are vague in early cases. I have personally made both the positive and negative errors concerning facies and stare which appear in the table. At the beginning of my interest in hyperthyroidism, both the positive and negative errors

were no doubt larger, and were confined for the most part to the questionable cases. It seems, therefore, that the average physician who sees relatively few such patients, would find facies and stare to be of little or no value in just the cases in which helpful signs were most needed.

Absence of wrinkling of the forehead in looking upwards is of no importance in diagnosis. Lag of the upper lid, widening of the palpebral fissures, and exophthalmos are all closely related. The last two are quite reliable signs of Graves' disease but are present only in the cases in which the diagnosis is very easily made from other signs. A slight terminal lag is occasionally seen in normal individuals. Widening of the palpebral fissures, if considered positive only when sclera shows above the iris in looking straight ahead, is not seen except in definite grades of exophthalmos. If the requirements for a positive test are made less, the test becomes unreliable. Exophthalmos other than that of hyperthyroidism is often congenital, occasionally due to marked myopia and rarely due to orbital tumors or aneurysms. Tension in the muscles of the lower face, such as is normally seen in emotional states, is the rule in patients with hyperthyroidism, but of course can be simulated by the emotional psychoneurotic.

The hands of the patient with hyperthyroidism are nearly always warm and moist and I have never seen one with clammy hands, whereas cold moist hands are very common in patients with psychoneurosis.

Tremor is the rule in hyperthyroidism but no special variety of tremor is limited entirely to this disease.

Throbbing in the vessels of the neck is only another expression of quick pulse and increased pulse pressure. These vascular signs can be simulated exactly in aortic insufficiency. A thrill definitely arising in the thyroid artery is good evidence of hyperthyroidism but is present only in outspoken cases. I have seen but one patient with a colloid goitre without hypermetabolism in which there was a well defined thrill. Bruit is less reliable because of the confusion which arises from the carotid murmur, venus hum and pressure bruit. Definite cardiac enlargement was demonstrable on physical examination in half of the hyperthyroid cases. A patient with a long drawn out history and no cardiac hypertrophy usually does not have Graves' disease.

The pulse rate averages higher in hyperthyroidism than in patients with "goitre phobia" but in individual cases it does not form a reliable basis for diagnosis. The pulse rate of the psychoneurotic

falls rapidly on bed rest and approaches the normal when the patient is asleep. The blood-pressure is no doubt the most reliable single physical sign in hyperthyroidism. In only 5 per cent of uncomplicated cases was the systolic blood-pressure below 130, the lowest being 124. In all of these there was a definite lowering of the diastolic pressure. In cases of long standing hyperthyroidism, or in those complicated by cardiac decompensation and to a less extent diabetes or tuberculosis, the blood-pressure may not be especially elevated. In the definite early cases of hyperthyroidism the systolic blood-pressure is practically always increased. The diastolic pressure, except in cases with marked arteriosclerosis or renal damage is nearly always appreciably lower than one might expect from the systolic tension.

Such signs as hemic heart murmurs, absence of myodema with great loss in weight, irregular margins of the matrix of the finger nails, and the patient's general ambitions and cooperative attitude are often helpful in diagnosis.

The metabolic rate, if truly basal, is a very reliable test. The difficulty is in obtaining basal conditions. With the instruments measuring oxygen consumption, the error is nearly always toward a high reading. Eight of the patients with "goitre phobia" had metabolism tests elsewhere before admission with an average B.M.R. of +28.6 per cent. Our own readings on these same eight patients averaged +4.8 per cent. In ten of the psychoneurotic group the first B.M.R. was too high to be compatible with the clinical impression, and in each case it was repeated and found to be normal. It is our custom to request that psychoneurotic patients with high B.M.R. reports have the test done every other day until it becomes normal. In all such cases the clinical findings have proved correct. In two cases in which the clinical manifestations suggested mild hyperthyroidism, the B.M.R. was normal and eventually both cases proved to be functional.

The abnormal physiology in hyperthyroidism is equal to increased metabolism plus certain changes in the sympathetic nervous system.

The changes in the sympathetic nervous system when definite are entirely characteristic of the disease and occur in no other condition. Yet these changes vary greatly in degree and are often of less value in diagnosis than the metabolic changes. Increase in metabolism occurs normally with muscular exertion, and in fever and leukemia. In hyperthyroidism it occurs without fever or muscular activity. Such increased metabolism at rest is a constant feature in hyper-

thyroidism and is manifest clinically in the following ways:

1. Increased consumption of food.
2. Increased heat production.
3. Increase in cardiac output.

The food intake must be increased or the patient will burn his own tissues. Usually the appetite is increased and there is also a loss in weight. Other possibilities are a great increase in appetite with no loss of weight or a great loss in weight with a normal or decreased appetite. The patient with a B.M.R. of 50 per cent will require about 235 per cent of the normal calculated food requirements to maintain his weight at rest. The excess heat produced by the oxidation of this food, if not used as energy, is given off by evaporation from a warm moist skin. Increase in cardiac output is necessary to maintain the high rate of metabolism and this end is attained by the rapid heart action and the high pulse pressure.

Two cases may be cited to illustrate the points under discussion. One patient complained of nervousness, tremor, palpitation, loss of fifteen pounds weight, and choking. His facies were suggestive of hyperthyroidism and there was tremor of the hands. The pulse was 104 and the blood-pressure 180/108. The B.M.R. was reported as +36.9 per cent. We refused to accept the diagnosis of hyperthyroidism because the patient was tired in the mornings and had clammy hands. After forty-eight hours of bed rest the pulse was 80, the tension 132/90 and the B.M.R. -2.3 per cent. The patient was, we think, correctly diagnosed psychoneurosis.

Another patient, clinically a psychoneurotic, had a consistently high B.M.R. One day the mask was kept on for fifteen minutes instead of six minutes. The rate as computed for the first six minutes was +27.2 per cent, and for the last six minutes was -14 per cent. Such lack of co-operation on the part of the patient can easily be recognized with the recording type of apparatus by observing the irregularity in the respiratory tracings.

Some of the more common difficulties in diagnosis will be appreciated from the following statements:

Of 100 patients with hyperthyroidism, 73 were sent to the clinic properly diagnosed; 9 were undiagnosed; 5 were sent in for heart trouble, 3 for gastrointestinal complaints, 3 for tuberculosis, 2 for diabetes, 2 for nephritis, 2 for general debility and 1 for neurasthenia.

Of the 100 patients with "goitre phobia", 69 were sent in for hyperthyroidism and most of the

remaining 31 were referred from other departments in the hospital for the purpose of ruling out hyperthyroidism.

Of the 100 nodular goitres, 97 were sent in for goitre, most of them being called "toxic". One was sent in for nephritis, one for heart disease and one with a substernal thyroid for asthma.

I have never seen a patient with a nodular goitre in which I felt there was any form of toxicity other than hyperthyroidism, which could be attributed to the thyroid gland. Hyperthyroidism is frequent in such patients, and the history often suggests repeated recurrences over long periods of years. Cardiac hypertrophy and auricular fibrillation are quite common in older individuals with nodular goitres, but we do not need to assume a special toxin as the cause for this cardiac damage until it has been proven; first, that there is a relationship between the cardiac damage and the thyroid gland, and second, that such patients never had hyperthyroidism of the ordinary variety.

Iodine had been given to 55 per cent of patients with Graves' disease, 37 per cent of the psychoneurotic group and 43 per cent of patients with nodular goitre.

COMMENTS

1. "Goitre" has been popularized and brought into the full public gaze with the effect that patients with Graves' disease are applying for treatment early and a large group of psychoneurotics are attributing their difficulties to "inward goitre". Nodular goitres are also being removed surgically.

2. Hypermetabolism is a constant part of hyperthyroidism and its clinical manifestations are definite and easily appreciated.

3. The lack of any one of the three principal clinical manifestations of hypermetabolism is sufficient to rule out hyperthyroidism.

4. There is no proof that "toxic goitre" as distinct from hyperthyroidism exists and the term should be dropped.

5. Metabolic rates determined by the oxygen consumption method are often too high and therefore not basal, but are very rarely too low.

6. Psychoneurosis and hyperthyroidism may coexist but the presence of the former will not change the physical signs of the latter.

7. No single sign diagnostic of hyperthyroidism exists.

Discussion

Dr. Addison C. Page, Des Moines—I have been very much interested in this review of the one hundred cases as presented by the essayist, and particu-

larly in the comparison of symptoms as seen in the hospital and those presented by a patient when he comes in for examination. As hyperthyroidism is very intimately associated with the nervous system the differential diagnosis between hyperthyroidism and psychoneurosis would at times be difficult. As these patients appear in the office it has seemed to me that most often they complain of digestive disturbances, at least that is a very frequent symptom. In his conclusions the essayist stated that in hyperthyroidism it was the combination of symptoms—the tachycardia, loss of weight, etc.—which really aided in making the diagnosis. In the psychoneuroses we do not have this combination. Another thing, in psychoneurosis the history of the patient will show that there have been previous evidences of psychoneurotic tendencies, while in hyperthyroidism the development of psychoneurotic tendencies has been comparatively recent; that is, they appear in a patient who previously has not manifested such symptoms. The entire subject of goiter has been so much discussed in the last decade that we hardly know where we stand. I think, however, that the diagnosis can be fairly definitely made, and made early, when we have a combination of the symptoms as mentioned by the essayist, coming on in a patient who has not previously given psychoneurotic evidence, then, with these symptoms, the determination of the basal metabolic rate is really the final link in the diagnosis. The mental condition of the patient has much to do with disturbance of the metabolic rate; that is, if a patient is not at rest, if frightened over an examination, the first test may lead one astray. Repeating the test is quite important in these cases if the symptoms are present to warrant its repetition.

Dr. Baldridge (closing)—We know that the brain is often very active in a psychoneurotic individual, and a patient physically at rest may, according to some investigators, have a metabolic rate of plus 40, if his mind is abnormally active. Most of such work has been done on psychopathic patients and perhaps is not quite applicable to the psychoneurotic case. For diagnostic purposes we prefer to see the patients as they come into the clinic off the street rather than after a period of bed-rest. Dr. Plummer makes a very apt analogy between the goitre patient and a drunken man in a hotel lobby; if you go to the latter and say—"You're drunk and noisy, if you don't keep quiet we will have the police come for you", he will become quiet, but is potentially just as drunk as ever, and the hyperthyroid patient after bed-rest is often apparently more quiet, and the findings less definite, but he is still capable of passing quickly into a thyroid crisis. These tabulations have all been made on patients sent to us for "goitre" either by outside physicians or referred from other departments in the hospital. Most of the results tabulated have been taken from examinations made in the out patient department as the patient entered the hospital. They may have been a little

more agitated than they appeared when seen in the home physician's office because of the trip and the strange surroundings.

THE EMPLOYMENT OF OXYGEN IN BONE AND JOINT DISEASES*

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Council Bluffs

The application of oxygen for the purpose of radiologic presentation of tissues otherwise not distinguishable in x-ray pictures has been recommended by Dr. T. Robinson and myself in 1904 at the Congress of the German Orthopedic Society in Berlin. In 1904 although by intelligible reasons demonstrating only the injection of oxygen into different joints I have at the same time referred to all possibilities of the employment of oxygen in human tissues. I have taken into consideration all soft parts of the body; all muscles, tendons, fascias, and all cavities of the human body.

The method of, as I named it, insufflation of oxygen in tissues, has been propagated from Vienna over Germany, France, Belgium into the United States: however, not as I have wished it.

First, very likely, because of the long journey from Vienna to New York and the long duration of almost twenty-five years, an insignificant fact was lost—that cannot be found, lost forever, namely Dr. Robinson's and my name as authors.

Gas is injected nowadays in almost all cavities of the body, yet I am certain none of the physicians using that method is conscious of my authorship.

The second fact considerably cooling my delight over the general dissemination of my method is the perception of that oblivion and negligence of all physiological rules, which characterizes the administration of oxygen at the present time, and which I must declare unscientific and dangerous. The injection of oxygen into any tissue or into any cavity must face the possibility of hitting a blood-vessel, this way directly embodying the oxygen under pressure, directly into the blood. Such an occurrence may be seldom expected, yet it is within possibility and we all know what the injection of oxygen under pressure, directly into the blood stream would mean to the patient; instantaneous stand-still of the heart in diastole and immediate death, because of the accumulation of oxygen in the right ventricle.

*Presented before the Seventy-Seventh Annual Session, Iowa State Medical Society, Cedar Rapids, Iowa, May 9, 10, 11, 1928.

The physiological foundation of my method of insufflation of oxygen has been laid out in the publication of G. Gaertner in the same year (1903) "On the Injection of Oxygen into the Umbilical Vein of the New-Born". Various experiments with dogs have made it evident that oxygen can be injected into the tissues of the dogs under certain conditions only. The results of these experiments being summarized as follows:

The limited amount of oxygen which can be injected without any danger is about one-third of the normal rate of oxygen metabolism. One-fifth or one-fourth of the normal rate can be injected even through one hour without danger. Injection of one-third requires special care and attention, and injection of one-half the normal rate is done with great danger to life.

A few minutes after oxygen is injected into the crural vein of the morphinized dog under pressure a systolic murmur can be heard above the right ventricle with the stethoscope, indicating a relative insufficiency of the tricuspidalis by extension of the right heart. With increasing pressure of the injected oxygen, the murmur becomes louder, now being audible at a greater distance without a stethoscope, within a few more minutes leading to the death of the dog. The post-mortem reveals the right ventricle balloon-like, inflated, filled with oxygen, likewise the pulmonary arteries. The death is caused by a diastolic, maximal dilatation of the heart, the expanded oxygen overstretching the heart muscles, and in this way preventing the ventricles from contracting.

The experiment can be modified so that with the noise above the heart increasing and audible, the oxygen stream is throttled, whereupon the murmur decreases and finally disappears.

In one case indeed it was possible immediately after death occurred to puncture the heart ex-



(b)

FIGURE 2

(a)

posed by resection of the ribs and to relax the ventricle, in this way restoring its ability of contracting, and reviving the animal.

All these experiments which of course are presumed to have been made with chemically pure oxygen, illustrate the following physiological proceedings during the injection of oxygen into a vein.

If the injection is made under pressure below one-third of the normal rate of oxygen metabolism, the oxygen enters the blood in the form of bubbles, which on their way into the heart are absorbed by the red blood cells. The amount of bubbles must not be greater than the ability of the red cells to absorb oxygen. If the ability to absorb oxygen is overloaded, the oxygen bubbles must accumulate in the blood stream and finally cause an accumulation of the gas in the right ventricle with murmur audible over the right ventricle, the intensity of which is equivalent to the amount of accumulation of the oxygen. The accumulation of the oxygen in the right ventricle having reached the maximum, a mechanic over-expansion of the heart results with the following stand-still of the heart in diastole.

The technique of injection of oxygen into living tissue therefore must claim:

1. The employment of chemically pure oxygen. I am using oxygen created in statunascendi by dissolving potassium permanganate in peroxide with a special apparatus constructed for this purpose.
2. The stream of oxygen passing the needle must be controlled by a monometer indicating the pressure and the amount of oxygen injected in one second.
3. The air must at first be expelled from injecting needle and tube by the emanating oxygen, before the needle is permitted to penetrate the skin.
4. The needle attached to the oxygen appar-



(a)

FIGURE 1

(b)



(b)

FIGURE 3

(a)

atus by a rubber tube must be dipped into a flat receptacle filled with alcohol, while the oxygen is emanating. The size of the bubbles ascending in the alcohol and their velocity indicate the pressure and the amount of oxygen.

If these four points are observed, the injection of oxygen into the tissues or cavities of the human body is a method without any risk. If they are not observed very strictly, every injection of oxygen can be followed by instantaneous death in case a blood-vessel be injured by the injecting needle.

As I have mentioned before I have recommended the insufflation of oxygen into the tissues for diagnostic and therapeutic purposes, and my thesis covering all details and possibilities of this method has been submitted in 1904 to the Academy of Science in Vienna, deposited in a sealed envelope.

At this time I was much interested in the study of the pathology of bones and joints in the x-ray picture and regretted it always that we had no methods to reveal the secrets of the soft parts of a joint with our x-ray interpretations. And even today we have not made any progress in this respect, we are right there where we were twenty-five years ago. We have improved our x-ray machines, we have reduced the time of exposure, and with the modern tubes and Bucky diaphragm we are able to guarantee 100 per cent of excellent x-ray pictures of joints with all possible details of the bony constituents. But we do not yet know anything about the cartilage, the synovial membrane, the ligaments. While the bone shows all its details, the soft parts of the joint form one opaque shadow veiling every detail—what if we were able to unveil that opacity, penetrate the darkness of the soft parts of the joint—what if we were able to reveal the secrets of the inner of a joint by the x-ray, the cartilage and the synovial membrane and the ligaments?

The injection of oxygen into the joint has solved that problem and to demonstrate the value of that method I have chosen the knee because the knee contains the largest joint space.

An x-ray picture taken in anterior-posterior direction (Figure 1a) although giving a fair interpretation of the bony constituents of the joint, leaves us fully in ignorance about what is called the soft parts of the joint. Notice in Figure 1b the external, internal, lateral ligaments, in the adjacent picture the anterior and posterior crucial ligaments, the medial and lateral semilunar cartilage, the tibiofibular ligament, and the cartilage, covering the condyles of the thigh and the tibia.

All that detail is invisible in an ordinary x-ray picture, and all sort of pathologic changes, traumatic ones as well as inflama conic ones, can take place in these parts without manifesting themselves in the x-ray picture. Likewise the synovial membrane is not seen.

The lateral view of the same joint (Figure 2a) does not instruct us either of the soft parts of the joint. So much more it is necessary to realize the extent of the socket and its bursa as shown in the picture (Figure 2b), the socket is filled and expanded by wax injected through a hole drilled through the patella. This picture shows very plainly the upper recesses, the posterior part of the sac, the lateral semilunar cartilage, the bursa poplitea and infrapatellaris profunda. Being familiar now with the anatomy of the expanded socket an injection of oxygen into the joint with the method described before will enable us to differentiate the soft parts of the joint.

In Figure 3, a comparison of the pictures in a and b shows very plainly the upper recessus of the socket, the cartilage of the tibia and the femur it shows the external and internal lateral ligaments of the joint, the wedgeshaped medial, lateral semilunar cartilage and their connection



(a)

FIGURE 4

(b)

with the socket. It reveals even the anterior crucial ligament.

The lateral view of the knee joint after the injection of oxygen displays the entire space of the joint; its communications with the upper recessus, and the popliteal bursa (Figure 4b). The cartilage of each condyle can be analyzed, likewise the cartilage of the patella.

Gentlemen, I believe I have demonstrated that the insufflation of oxygen into the joints is a great improvement of our technical possibilities to analyze the pathologic changes in the soft parts of the joint, a very important asset in our symptomatology of beginning joint diseases and injuries, and if done under certain conditions is harmless and without danger.

Discussion

Dr. Archibald F. O'Donoghue, Sioux City—In spite of the great advancement that has been made in modern diagnosis, the subject of joint diagnosis is in many cases still a very baffling one. The differentiation between low grade infection, tuberculosis, lues, joint mice, ruptured ligaments, the different types of low grade arthritis, etc., is extremely puzzling, and we should call for all the possible aids of diagnosis which modern scientific medicine has brought to us. The insufflation of gas in joints helps in getting clear x-rays. Almost simultaneously with the introduction of x-ray in surgical diagnosis came the use of contrast materials, such as barium meals, and shortly afterwards the use of gas throughout cavities and soft tissues was introduced. The use of gas in various cavities of the body has not come into general use, and from what the essayist has said I am sure it should be more commonly employed. There is, however, one point in the diagnosis of joint disease as well as of all other surgical conditions which I think we should not overlook. I have not forgotten that my old teacher, Dr. Campbell Howard, one of the ablest teachers I have known, after an x-ray demonstration of any condition always ended up by saying, "This is valuable, but remember that, after all, the x-ray is only a symptom and should be assembled with all the clinical findings before making a diagnosis of any definite outline of disease". I feel that the use of gas is comparatively a safe procedure, and will materially aid us in diagnosing many joint conditions.

WALKING THE PLANK

Major von Gruber, a German army medical officer, has invented a device for strengthening the intrinsic muscles of the feet, which is especially useful in the treatment of children whose feet are weak. The patient is required to walk up and down the staircase-like device, barefoot, several times a day.

CASE REPORT

DYSTOCIA DUE TO LARGE POLYCYSTIC KIDNEYS IN THE FETUS*

A Case Report

H. A. MILLER, A.B., M.D., Fairmont Clinic,
Fairmont, Minnesota

The literature concerning the genesis of polycystic kidneys is very extensive but there seems to be no conformity of opinion among the different authors. Some attribute the abnormality to junction of the two rudiments and formation of the cysts by retention, others hold to the tumor theory or to a primary disturbance in the development followed by proliferation.

Peter Muller¹ reports some recent studies published by Stammler to the effect that a congenital disturbance of the development is combined with a primary tumefaction. In his case of a fetus, with cystic changes of the highest degree in the kidneys and the liver, the swollen abdomen of the fetus was the obstetric obstacle. There were no other deformities. The fetus, intrauterinely dead, was extracted in pieces after eviceration at which enormous quantities of ascites fluid appeared. The mother recovered after a protracted and febrile puerperium. The right fetal kidney in Muller's case was changed into a tumor mass weighing 230 grams grossly without any signs of renal tubules or normal tissue. The most significant findings were the microscopic which showed cystic cavities in the cortex as well as in the medullary substance. In the cortex these cystic cavities were separated by a filamentous connective tissue, very poor in cells, stained red with Van Gieson's stain, which broadened considerably towards the hilus. In the medullary region it was richer in cells and stained yellowish-green with Van Gieson's stain. The nuclei were medium sized and varied from elliptic to fusiform. The embryonic tissue rich in cells was found around the cystic cavities; while the more mature tissue and with few cells was at a greater distance. The tubules in the connective tissue, in the parts representing the cortex were lined with low cubical epithelium and fast staining nuclei. There were very few glomeruli. Lymphocytic infiltrations together with polynuclear lymphocytes were found in every section. The liver tissue was entirely macerated and stain negative. This one case does not justify a definite conclusion but the presence of a multilocular adenocystoma is proved.

*Presented before the Upper Des Moines Medical Society, August 16, 1928.

1. Schweizerische Medizinische Wochenschrift, March 20, 1924.

For the child the prognosis is fatal when there are mechanical obstacles during labor. Intra-uterine death and premature birth are possible. Everything depends on the degree of the functional disturbance of the organ.

For the mother the prognosis is generally favorable, though the puerperium may be protracted and complicated in consequence of the long and difficult labor often necessitating an embryotomy. This happens especially, when the cystic kidneys appear co-incidentally with cystic liver as in the author's case. All the similar cases observed were serious obstetric obstacles chiefly on account of the accumulation of the ascitic fluid.

When after the appearance of the fetal head the rest of the body does not follow the question remains open as to which of the numerous possibilities it is. This also applies to a breech presentation. Extreme distention of the abdomen of the parturient and previous similar experiences in the mother or other members of the family are significant and should warn the accoucher to look for this type of dystocia.

From the reported cases in the literature coupled with the clinical observation of the case here reported, the following summary of this condition seems warranted.

Polycystic kidneys in the fetus may cause a very marked degree of dystocia.

In head presentations, if after the head is born there is difficulty in delivering the after coming body associated with an enlarged abdomen in the mother, the enlarged abdomen in the child may be the obstetrical difficulty. This also applies to breech presentations.

If a diagnosis of an enlarged abdomen in the fetus is made and delivery is very difficult or impossible, an embryotomy is indicated.

Large polycystic kidneys with or without cystic liver in the fetus is incompatible with life after birth.

The danger to the parturient is a ruptured uterus if interference is too long delayed.

Case Report

Mrs. P. H., age twenty-four years, born in Minnesota. Father, Mr. P. H., age thirty-one years, born in Minnesota. Farmer.

Family history—As to deformities at child birth, etc. On mother's side negative. On father's side negative except that a child was born to his father's first wife that was malformed and was still born.

Previous health of mother—In childhood had measles, chicken-pox and pertussis. No complications or sequellae. Adult history negative.

Previous pregnancies—One previous pregnancy at term, July 19, 1924. Throughout this pregnancy had felt well with just occasional nausea and vomiting

during the first trimester. Labor three hours—normal—six and one-half pound baby normal in every respect.

Present pregnancy—Last menstruation September 5, 1925. Quickening about January 25, 1926. No acute or chronic infections. Toxemias—Negative excepting for a persistent hyperemesis quite marked during first trimester and persisting to a milder degree throughout entire pregnancy. No edema. Urine and blood-pressure normal throughout.

Labor—Period of gestation seven and one-half months. Size of pelvis 26, 29, 31, 19. Position—Frank breech S. D. P. Complications—Contraction ring and malformation of fetus producing dystocia.

Summary of pregnancy and labor—Hyperemesis during first trimester, some vomiting throughout pregnancy, however blood-pressure and urine remained normal. Says she felt quite miserable during entire pregnancy.

Labor began about 11:30 a. m., April 19, and pains were intermittent throughout that day and evening. The doctor was called at midnight after membranes had ruptured and some little bleeding had occurred. Vaginal examination revealed a frank breech presentation with cervix nearly fully dilated and effacement partially complete. Pains continued for about forty-five minutes when on examination cervix was fully dilated and completely effaced. Fetal heart beat at midnight was 140, regular and some fetal movements were noticed. At 1:00 a. m. no fetal heart could be detected. Patient was then anesthetized with ether, both feet were brought down and an attempt made to deliver her which was unsuccessful. On examination the buttox were just through the cervix but the doctor was unable to pass his hand any higher because of a strong contraction ring in the lower segment of the uterus. The anesthesia was not deep enough because the husband was afraid to give her more.

The mask was removed and patient allowed to come out. In about two hours pains were strong and regular. About 5 a. m. another unsuccessful attempt was made to deliver her under ether anesthesia.

At this time I was called in consultation on the case. I found the patient agonizing with what seemed to be very severe uterine contractions, coming on in about two minute intervals. Her abdomen was somewhat larger than would be expected for a seven and one-half months pregnancy. The uterus was hard and in a tonic state of contraction with a definite ring of contraction in the lower segment. The lower extremities of the fetus protruded from the vagina and their general appearance indicated that the fetus was dead. No heart tones could be heard. Vaginal examination disclosed the cervix around the buttox of the fetus. Upon attempting to get the fingers into the uterus they met with resistance which I decided was the enlarged abdomen of the fetus. Under deep anesthesia I then did an embryotomy. First I removed the lower extremities with the pelvis. Then I was able to enter the

abdominal cavity of the fetus, and shell out two large tumors. After this was done the rest of the fetus came out very easily. The placenta was removed manually and a large gauze pack introduced into the uterine cavity. This was removed after twenty-four hours. Puerperium was normal patient remaining in before fourteen days.

DEPARTMENT OF PATHOLOGY

Autopsy No. 26-880

Case title—Congenital cystic kidneys.

Pathologist—Dr. Helen M. Kepler.

Physician—Drs. Leopold and Miller.

Patient—Baby boy. Age—Sb. Sex—M.

Autopsy—October 5, 1926, 9:30 a. m.

Mortuary—Institute of Anatomy.

Clinical data—The body is that of a white male full term infant. The measurements cannot be taken because of removal of the pelvis and lower extremities in the birth canal. The estimated weight is 3,080 grams. The body has been in formalin for some time. All the abdominal viscera have been removed from the peritoneal cavity. The cord is tortuous and gelatinous and measures about 15 cm. The diaphragm is pushed up, the total depth of the chest being 3 cm. There is a herniation of the meninges in the supraoccipital region through a bone in the scalp, the defect measuring 3 cm. in diameter. The meninges of the vault are involved. There is much overriding of the sutures. There is distortion of the head. The mutilation of the body is such that the urogenital tract cannot be followed, but the scrotal sac does not contain the testes.

The pericardial width is 5 cm. There are no adhesions and no gross hemorrhages. The thoracic width is 12.5 cm.

The heart weighs 18.4 grams. It is apparently normal.

The right lung weighs 7.5 grams and the left 6.6 grams. The pleural surfaces are normal. Color is generally pink. The lungs do not float. No frothy fluid can be expressed.

The spleen weighs 7.5 grams. Surface color is dark red. The spleen is a flattened ovoid, 4.5 x 3 cm. Consistence is firm. Capsule strips readily. On section the color is dark red. It is friable. The follicles can be seen and the trabeculae can be made out. There are no accessory spleens noted.

The liver weighs 182 grams. Capsule strips readily. Surface color is mottled. Consistence is firm. The section shows multilocular cystic degeneration in the central portion bilaterally. Color is uniformly brown on section.

The gallbladder and ducts are normal. The stomach measures 4 x 1.5 cm. It is contracted and contains only a small amount of mucoid material. The mucosa and pylorus are apparently normal. There is no ulceration, congestion or lymphoid hyperplasia in any of the gastrointestinal tract. From the lower ileum on down there is a slight amount of meconium present.

The pancreas weighs 3 grams. It is firm and the lobules are well marked. The right adrenal weighs 2.7 grams and the left 3.5 grams. They are friable. The surface color is pinkish gray. There is no congestion apparent. Section appears normal. Separation along the line of the medulla is marked.

The right kidney weighs 405 grams and the left 567 grams. Capsule is thickened. They feel spongy. Color is pale yellowish. On section it appears that there are multiple small cystic masses, which are firm and from pin point size to 4 mm. in diameter. These are scattered throughout the substance. No hemorrhages can be detected. The pelves are elongated. The ureters appear normal. The bladder, prostate, seminal vesicles, epididymes and testes are not found.

The mesenteric lymph nodes are marked, but not enlarged.

The thyroid weighs .8 gram. Surface is smooth. It is entirely cervical in position. The thymus weighs 9.8 grams. It measures 4.3 x 3 cm. The cervical lobe is broad. The edges are round. Color is pink and it overlaps both lungs and on the left the pericardium.

The brain is very soft. There are gross hemorrhages in the meninges.

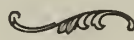

There is an anomaly of the tongue which presents posteriorly a triangular portion imperfectly fused on the right anteriorly with a single mass; on the left this mass is represented by two pedunculated masses springing from the under surface of the base.

Microscopic—Thyroid: Small branching; acini filled with colloid; loose areolar stroma; some lymphocytic infiltration. Thymus; lobulation complete; corpuscles present; cells and structure normal. Heart: negative. Lung: normal non-functioning fetal lung. Liver: cords appear normal; biliary tract cystic; very prominent; many hemoblastic areas present throughout; section does not include any of the central cystic area seen grossly. Spleen: negative. Pancreas: duct system negative; islands not well defined. Adrenal: cords of cortex broken into nests of cells by very widened capillary luminary mesh; cells of three zones can be distinguished and appear normal; medulla well defined; no chromaffin cells can be made out. Kidney: at the outer portion a few glomerular tufts are present, of which there is a hyperplasia of the covering cells; in this area there are a few aberrant tubules with poorly differentiated cells; major portion of the section is composed of loose areolar tissue containing irregular spaces lined with cuboid to squamous epithelium.

Diagnoses:

1. Congenital cystic kidney.
2. Cystic degeneration of the central portion of the liver.
3. Meningocele in the supra-occipital region.
4. Developmental anomaly of the tongue.

STATE HEALTH COMMISSIONER'S PAGE

 Henry Albert, M. D. 

PREVALENCE OF COMMUNICABLE DISEASES

The most prevalent communicable diseases during the past month have been scarlet fever, smallpox, and chickenpox. There has also been a considerable sprinkling of measles, German measles, mumps, and whooping cough.

POLIOMYELITIS

Five cases of poliomyelitis (infantile paralysis) were reported during the past three weeks. Two of these are in Sioux county, one in Woodbury and two in Mahaska.

SMALLPOX AND CHICKENPOX AGAIN

Both of these diseases exist in the state. In some places both are apparently present at the same time. Most of the smallpox is so mild as to make it difficult to differentiate from chickenpox. At any rate, there are several places where one physician is calling his cases smallpox and another the cases which he sees, chickenpox. The result is usually a disregard of public health procedures and some loss of respect for the medical profession. The profession can ill afford to have such situations prevail. When the first case of either smallpox or chickenpox appears in a community, it should of course be reported to the local board of health. If several cases appear in the community, indicating that the disease has gained a foothold, the local health officer should see the cases with the attending physician, then call a meeting of all the physicians of the community with the idea of arriving at a diagnosis of the nature of the epidemic. In case of reasonable doubt the condition should be regarded as smallpox. This is true both for the sake of the rest of the family and for the general public. Vaccination should of course be recommended.

In no case should a health officer change the diagnosis of smallpox made by another physician, to chickenpox—unless adequate consultation proves the diagnosis to have been wrong and the public interest is better served by having a change to the probably correct diagnosis made. The interests of the public may however require

the changing of a diagnosis of chickenpox to smallpox. No health officer should however visit a case belonging to another reputable doctor without first seeking a conference with the idea of seeing the case together. In case of disagreement it is well to call in consultation. The opinion of the health officer should have the greater weight when it comes to communicable diseases.

One of the great difficulties in connection with our local public health work is that the health officer is a competitor of other practicing physicians, and too often the attitude and action of the health officer is influenced by personal feelings. One of the great merits of the county health plan made possible by the recent legislature is, that it will permit the employment of a full-time health officer who is not a competitor of practicing physicians but who will work in harmony with the latter. Because of the frequent differences of opinion regarding the diagnosis of smallpox and chickenpox we reprint the following differential points as given in Public Health Reports (U. S. P. H. S.) January 28, 1927.

SMALLPOX

(a) Favors prominences, extensor surfaces, and surfaces exposed to irritation; tends to avoid protected surfaces, flexures, and depressions.

(b) The forearms and wrists have a thicker eruption than the upper arms.

(c) Most abundant on face, most scanty on abdomen and chest.

(d) More abundant on the back than on the abdomen.

(e) More abundant on the shoulders than across the loins, and on the chest than on the abdomen.

(f) The eruption favors the limbs and generally the arms next to the face.

(g) Except when modified naturally or by previous vaccination, the lesions are deep-seated and have an infiltrated base.

(h) The solitary lesions on the more protected parts of the body are generally circular in outline.

(i) The lesions tend to be all of the same sort at the same time, or if they are different, the smaller the lesion and the nearer it lies to the face the more advanced in development it should appear to be. In

cases of modified smallpox the lesions are likely to vary greatly in size.

CHICKENPOX

(a) Is distributed indifferently in general, though not infrequently the eruption is especially thick over some particular area of the skin where there has been irritation.

(b) The proximal part of the limbs have more of the eruption than the distal.

(c) The abdomen and chest are covered as thickly as the face, or more thickly.

(d) The abdomen has as many lesions as the back.

(e) The distribution is indifferent as regards these regions.

(f) Tends to avoid the limbs.

(g) Unless they have become infected, the solitary lesions on the more protected parts of the body are superficial and the base is not infiltrated, so that the entire lesion tends to collapse on pressure.

(h) The lesions frequently have an irregular outline; when they lie near a flexure they are apt to be oval or elongated.

(i) Lesions at various stages of development may be found simultaneously, irrespective of their location or size.

Although smallpox occurs much more often in the unvaccinated than in those who have had even a single vaccination, the vaccination history or vaccination scars should not be given too much weight when it comes to differential diagnosis.

FREE DIPHTHERIA IMMUNIZATION NOT ADVISABLE

Physicians do altogether too much free work. Physicians themselves are partly responsible for this. Health officials and non-medical health and welfare devotees are the cause of most of it. Let us take toxin-antitoxin immunization against diphtheria as an example.

Now that a large proportion of the public appreciates that it is possible to secure protection against diphtheria by the simple, safe and effective method of immunization with toxin-antitoxin, zealous well-meaning groups of the public desiring to accomplish the most good in the shortest time possible, often appeal to physicians to give the treatment free of charge.

Certain physicians—more especially newcomers to a community—whose “time” rests rather heavily on their hands, will sometimes from the desire to render service but more often with the idea of getting before the public, offer to do the immunization of groups of school children without charge if the “material” is furnished. This is not right. It is an injustice to professional

colleagues. Nor is it in the interest of the public since it disturbs the relationship between the family physician and his clients and also tends to pauperize the portion of public which is well able to pay.

This is not a criticism of campaigns to get all the children in a community immunized against diphtheria. It is advisable to have one good campaign in every community. But physicians should receive reasonable compensation for their services.

NEW PUBLIC HEALTH LEGISLATION

The legislature which just adjourned passed some very constructive public health measures. The success achieved is due chiefly to the recognition by the legislators that the measures were sound and practical and also to the unity of effort on the part of those who, by virtue of their positions, are morally charged with the responsibility of presenting to legislators the need for changes in our laws. Many persons and organizations assisted in promoting a constructive public health legislative program. Special mention should, however, be made of the following: Dr. E. J. Cole of Woodbine who represented Harrison county in the house of representatives; Vernon Blank, managing director Iowa State Medical Society; Dr. Thomas A. Burcham, chairman legislative committee, Iowa State Medical Society; Dr. D. C. Steelsmith of the State Department of Health and T. J. Edmonds, executive secretary of the Iowa Tuberculosis Association.

From a public health point of view, the following twelve measures passed by the legislature are of special importance.

1. County Health Organization (Senate File 393). This bill will enable counties to organize their public health work on a county basis. It is the most constructive piece of legislation pertaining to local health administration that has ever passed an Iowa legislature. It is, we believe, the best county health law in the country. It will place a great responsibility on the medical profession.

2. Law enforcement (House File 185). This bill provides for an inspector in the State Department of Health to secure evidence, etc., in case of violations of the medical (and other) practice acts. The inspector will begin work the first of July.

3. Federal Aid (House File 346). This will permit the State Department of Health to accept federal aid for public health work.

4. Eugenics (House File 243). This is a conservative measure designed to curb the propagative power of those afflicted with serious diseases which may be transmitted by heredity.

5. Embalmers License and Sanitation Bill (Senate File 191). This bill raises the requirements for licensure as an embalmer and for better sanitation of embalming establishments. Physicians are asked to report "insanitary" places.

6. Barber Shop Closing Bill (Senate File 124). The State Department of Health may close barber shops if necessary for the protection of the public health. Physicians are asked to report insanitary shops.

7. Cosmetology Establishment Inspection (Senate File 189). This bill raises the annual renewal fee of "Beauty Parlor Artists" from one to three dollars—the same as for barbers. The increased fee will enable the department to have another inspector. If your wife finds conditions insanitary in the beauty shop which she patronizes, please ask her to report.

8. Care of Indigent Tuberculosis Patients (Senate File 83). This bill permits boards of supervisors to pay an institution up to \$20 per week for the care and support of indigent tuberculous patients. This money is taken from the poor fund of the county. It may be used to support a patient in a sanitarium in a county other than where the patient resides.

9. Juvenile Code Transmissible Disease Bill (Senate File 175). This bill permits a child "living in a home wherein because of carelessness or neglect of a person or persons having a transmissible disease of a serious nature as determined by the local board of health, local health officer or the State Department of Health, the health of said child may be in danger" to be placed under the jurisdiction of the juvenile court.

10. The engineering division of the State Department of Health is provided with a special engineer for inspecting water supply and sewage disposal plants and assisting those in charge to remedy defects. If the water supply of your city is apparently unsafe, please let us know.

11. Investigation of Tuberculosis. This work was transferred from the State Board of Control to the State Department of Health.

12. Epidemiology. Beginning July first, the Department will have an epidemiologist to make investigations of epidemics. His traveling expenses will be paid by the state.

THE GROWING PUBLIC HEALTH CONSCIOUSNESS OF THE PROFESSION

The attitude of the medical profession manifested especially, during the recent session of the legislature, is conclusive proof of the growing public health consciousness of the profession.

There is an increasing appreciation of what can be accomplished in way of preventing disease and also what may be done by organized effort. There is also an increasing recognition of the knowledge on the part of the public, that much more disease can be prevented than is now being done.

The giving of more attention to the preventive side of medical work means, of course, some little sacrifice in way of thought and effort. To the extent that disease is prevented and the physician accordingly deprived of the income which comes from treating the cases of illness which would otherwise have occurred and which is, of course many, many times more than the physician receives for preventive work—to that extent and in that respect, the physician is the financial loser.

To compensate for such, however, there is the satisfaction of having rendered a great professional obligation to the lay public; an enormous gain in public good will and the mutual financial profit that comes from the maintenance of a proper relationship between families and their physicians, and the frequent examinations of the apparently well. It is also one of the most effective methods of preventing the development of state medicine.

AMERICAN OTOLOGICAL SOCIETY SEEKS \$2,500,000 TO PREVENT DEAFNESS

A plan, world wide in scope, for research into the cause, cure and prevention of deafness has just been announced by the American Otological Society. While a fund of \$2,500,000 will eventually be sought to finance the complete plan, an immediate campaign to raise \$500,000 by July 1st and thus continue a program of research started through a grant by the Carnegie Corporation four years ago has been started. The campaign was launched at a dinner given at the New York Academy of Medicine by the board of trustees of the Research Fund on Tuesday, March 12, to a group of interested laymen and physicians.

In announcing the campaign, Dr. Arthur B. Duel, chairman of the Research Fund board of trustees, spoke of the necessity of completing the \$500,000 fund by July 1st. He announced that Edward S. Harkness had already pledged a gift of \$100,000 on condition that the remainder of a half million dollar fund be raised by July 1st. Starling W. Childs of New York City has also pledged \$25,000 with the same provision. The income from this fund will be used to continue work begun in June, 1926, under a grant of \$90,000 by the Carnegie Corporation. This sum was given to begin and partially finance for five years a program of continuous and correlated research in otosclerosis, the hereditary form of chronic progressive deafness.

Details of this program of research may be had upon request to New York Academy of Medicine, Fifth avenue and 103d street, New York City.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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The Cardio-Vascular System

I. EVALUATION OF THE RECENT ADVANCES IN CARDIOLOGY

The brilliant work done by James Mackenzie,¹ initiated a veritable renaissance in cardiology. This has now passed its zenith, and enough time has elapsed since the publication of the most important work done on diseases of the heart under this impetus to justify an attempt at a clinical evaluation. Changes brought about have been described in such superlative terms as "epoch-making", "revolutionary". If such be the case, definite benefits should accrue to those sick from heart disease. The following is an attempt made to enumerate these benefits:

1. Through the work of Mackenzie, Lewis, and many others, it is now possible to recognize by simple clinical means practically all the various arrhythmias of the human heart and their prognostic significance has become well-known.

2. The electro-cardiograph invented by Einthoven furnishes graphic records of the electrical changes going on in normal and pathologic hearts. This instrument has been of great value in the development of exact knowledge concerning cardiac disorders. It will always play an important role in the teaching of cardiac pathology and in research on diseases of the heart. Its

clinical field of usefulness is narrow but definite.

3. During this renaissance, cardiac drugs have been thoroughly studied, and a new cardiac drug—quinidine—has been introduced and used in a sufficient number of controlled cases so that its properties are known. Quinidine effects a restoration of normal rhythm in the majority of cases of auricular fibrillation and auricular flutter, and a disappearance of a number of other arrhythmias. The disadvantages of the drug are: (1) Idiosyncrasy to the drug in a considerable number of individuals (10%). (2) The drug is a poison, and disastrous results are altogether too frequent. (3) In the vast majority of cases the restoration to normal rhythm is only temporary. Studies on the digitalis group of drugs have brought out that digitalis itself possesses all the beneficial properties of the members of this group, and far less of the undesirable reactions than any of the other members of the group; hence, only digitalis preparations need be used. The best preparations are the standard tincture and the standardized leaf. The average therapeutic dose of the tincture is 0.15 c.c. per pound of body weight. This amount may be given in one dose according to the method of Eggleston² with relative safety when digitalis is urgently needed, or a safer method is to give one-half of the therapeutic dose the first day and gradually reduce subsequent doses until the digitalis effect is obtained. Cohn³ and others have shown that the same dose may be given per rectum with the same therapeutic effect.

4. A clinico-pathologic study by Richard Cabot⁴ has brought out that over 90 per cent of all cardiac deaths are due, in the order of their importance, to hypertension, rheumatic disease, and syphilis. In hypertension, the characteristic demonstrable clinical findings are the symmetrically enlarged heart without valve defects; in rheumatism, mitral stenosis with a presystolic murmur heard at the apex or over the mitral valve; and in syphilis, those of aortic insufficiency.

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2. Eggleston, C.—Digitalis Dosage—Arch. Int. Med. 16, 1, 1915.
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4. Cabot, Richard—Facts on the Heart—Saunders, 1926.

Editor's Note—This is the first of a series of editorials dealing with the modern advances in cardiology. The second of the series will be published in the June issue and will discuss recent contributions to our knowledge of "Hypertension".

ANNUAL CLINIC OF THE COLLEGE OF MEDICINE, STATE UNIVERSITY

The eighteenth annual clinic of the College of Medicine was held at Iowa City, April 2 and 3. Despite the rain and bad roads over 300 physicians attended the clinic.

The program was opened on Tuesday morning in the surgical amphitheatre with an address of welcome by Dean Houghton. At 9:30 he was followed for an hour by Dr. Beye, who demonstrated cases of fractures and dislocations of the upper extremity. Dr. Beye discussed the treatment of each case, laying special stress on conservative treatment. The following hour a clinic in genito-urinary surgery was presented. Dr. Alcock demonstrated a case of retro-peritoneal sarcoma obstructing both ureters, with anuria. Two cases of ureteral calculi and the method of placing an indwelling catheter and changing a supra-pubic drain.

At 11:30 a clinic in internal medicine was presented by Dr. F. M. Smith. He demonstrated a case of Malta fever with a brief discussion and then turned the clinic over to Dr. Hardy, the acting director of the laboratory of the State Board of Health. Dr. Hardy discussed undulant fever, particularly stressing the agglutination test. He especially encouraged the physicians of the state to make use of the facilities offered by the laboratory of the State Board of Health in the diagnosis of these cases.

Tuesday afternoon and Wednesday were devoted to clinics in the specialties. Each hour two clinics or demonstrations were running simultaneously.

During the first hour Dr. Jeans presented a clinic in pediatrics at the Children's Hospital, and Dr. Rutherford, a clinic in ophthalmology in his clinic room in the General Hospital. Dr. Jeans discussed the relation of focal infections to nutritional disturbances in babies and presented cases illustrating his points.

Dr. Rutherford presented and discussed cases of squint, glaucoma, congenital cataract, of chorioiditis, retinitis and iritis. From three to four were clinics by Dr. Steindler in the Children's Hospital and by Drs. Lierle and Fenton in the operating room of the department of otolaryngology. Dr. Lierle reported results in 101 cases of asthma in the child and the adult, demonstrated cases and treatment of actinomycosis, of tumors of the larynx and of carcinoma of the mouth and pharynx.

Dr. Fenton demonstrated and discussed the treatment of fractures of the jaw and a case of atresia of the nasopharynx and management of the same.

At the orthopedic clinic Dr. Steindler demonstrated cases of tuberculosis of the spine and discussed the different types and the prognosis of each type, both in adults and children.

Dr. Goldberg showed cases of arthroplasty of the hip. Dr. Miltner, discussed focal infection in arthritis. Dr. Milgram subdeltoid bursitis, and Dr.

Greaves demonstrated braces and contrivances on children.

From 4 to 5 Dr. R. L. Sutton, professor of dermatology in the University of Kansas, held a special clinic in dermatology. He presented and discussed sixteen cases of skin diseases.

The day was concluded with a dinner at the Memorial Union at which the visiting physicians were the guests of the College of Medicine. Following the dinner Dr. Sutton gave a most interesting illustrated lecture on hunting tigers and other large animals in the jungles of Indo-China and India.

Wednesday started with demonstrations by the departments of pathology and roentgenology at 8:30.

Dr. Hansman showed in the autopsy room various types of brain tumors and discussed the differential diagnosis of each, then followed with tuberculosis of the meninges and tuberculomas, lymphoma in the region of the ileo-cecal valve, three cases of carcinoma of the breast in the male, and congenital syphilis.

Dr. Britt in the medical amphitheatre showed films of tuberculosis of the chest and discussed the technique for use of dyes in demonstrating the gall-bladder. Dr. Gibbin showed films visualizing the gall-bladder.

The following hour Drs. VanEpps and Kolodny held a clinic in neurology. They presented and discussed two cases. The first that of a young man in which the lateral spino-thalamic tracts on both sides were sectioned for the relief of pain in the feet and a case of rhizotomy in a man of seventy years for the relief of pain in an inoperable carcinoma. They discussed the two cases and the reasons for selection of the operations.

At the same time Dr. Plass was conducting a clinic in the surgical amphitheatre on the late toxemias of pregnancy. He demonstrated a case of a woman brought in in convulsions treated by the conservative method rather than by Cesarean section with complete recovery and later delivery of a dead foetus. He gave a complete review of the late toxemias and stressed the conservative treatment over Cesarean section.

The following hour Drs. Peters and Kolodny gave a clinic in general surgery. Dr. Peterson presented cases of acute and chronic gall-bladder disease and the differential diagnosis and treatment. Dr. Kolodny presented cases illustrating complications in fracture of the skull. During the same hour Dr. A. H. Woods conducted a clinic in the psychopathic hospital. He showed cases of psychoneurosis, one a hysterical woman with perfect imitation of labor pains. The other a man of the neurasthenic type and discussed the types.

The morning session closed with a lecture on "Blood Sugar and Its Regulation" by Philip A. Shaffer, professor of biochemistry, Washington University, St. Louis.

Wednesday afternoon was spent in case demonstrations, laboratory demonstrations in the clinical laboratories and in ward walks to special groups.

MEETING OF THE AMERICAN HEART ASSOCIATION

The Scientific Session of the American Heart Association will be held in Portland, Oregon, on July 9, 1929, during the meeting of the American Medical Association.

SUMMER CLINICS, CHICAGO MEDICAL SOCIETY

The Chicago Medical Society will hold a two week's clinics at Cook County Hospital June 17 to 29 inclusive. Members of the hospital staff will give these clinics on the following schedule:

Eight to 10 a. m.—Medical and surgical clinics in amphitheatres.

Ten to 12 a. m.—Ward walks.

Twelve to 1 p. m.—Luncheon.

One to 3 p. m.—Medical and surgical clinics in amphitheatres.

Three to 5 p. m.—Ward walks.

The amphitheatre work will be devoted to medical and surgical dry clinics and lectures. Two amphitheatres will be used simultaneously, one for medical and one for surgical clinics. Each clinic will be one hour in length, thus giving four medical and four surgical clinics daily. Operative work will be done during the hours devoted to ward walks. The clinical work will be confined largely to general medicine and surgical subjects.

It is planned to hold six meetings to be addressed by speakers other than members of the hospital staff on such subjects as heart disease, tuberculosis, obstetrics, physiotherapy, gastro-intestinal disorders and possibly diabetes.

A registration fee of ten dollars will be charged to cover the cost of preparing for and conducting the clinics.

For further information apply to the Chicago Medical Society, 185 N. Wabash avenue, Summer Clinics Committee.

COUNTY SOCIETIES COORDINATE HEALTH ACTIVITIES

At least two county societies in Iowa took important steps toward coordination of county health activities at meetings which they sponsored in April. Des Moines County on the 9th and Calhoun County on the 18th of April held open meetings to which were invited representatives of professional and lay health agencies to discuss methods of coordinating health work within the county.

The Des Moines County Society invited the County Dental Society, the Red Cross, the American Legion, the Parent-Teachers Association, County Federation of Women's Clubs, the Tuberculosis Association, the Social Service League and the Superintendent of Schools.

The Calhoun County Society invited representatives of the Farm Bureau, American Legion, Public Schools, Legion Auxiliary, Federated Women's Clubs. Procedure with regard to a county school nurse and immunization was discussed and the lay members of the meeting voted thanks to the medical profession for its efforts for the public welfare.

POST-GRADUATE MEDICINE AT BORDEAUX, FRANCE

Announcement has been made that there will be a post-graduate course in ear, nose and throat surgery for American physicians at the University of Bordeaux, France, commencing July 22, 1929.

Dr. Leon Felderman, Philadelphia, Pennsylvania, is in charge of registering the American physicians for this course.

POST-GRADUATE SCHOOL IN THE UNIVERSITY OF GRAZ, AUSTRIA

Announcement has been received that the medical faculty of the University of Graz will undertake a school of post-graduate instruction in medicine following the Vienna plan. Their courses will be given entirely in English since the majority of their teaching staff speak fluent English. They expect to stress the clinical and bedside teaching, devoting only the minimum time to the didactic and theoretical side. They propose that the course be of moderate cost, hoping by this means to attract greater numbers. A diploma or certificate of attainment will be issued to physicians completing a full prescribed course. The city of Graz located as it is in the foothills of the Alps, should furnish a delightful climate for the American physician desiring a residence in Austria.

The University is of good standing, and the clinical facilities furnished by a new general hospital of sixteen hundred beds should prove adequate in all major specialties.

Information concerning these courses can be secured from Docent Dr. Knaus, Landeskrankenhaus Graz, Austria.

AMERICAN PHARMACEUTICAL MANUFACTURERS TO MEET AT OLD POINT COMFORT, VIRGINIA

The Chamberlin-Vanderbilt Hotel at Old Point Comfort, Virginia, has been selected for the annual meeting of the American Pharmaceutical Manufacturers' Association to be held June 3-6.

The meeting this year will take on an international aspect as invitations have been extended to more than twenty-five leading Canadian manufacturers to attend and participate. Representatives of the British Chemical Manufacturers have also been invited.

Discussion of distribution problems will be one of the principal features of the meeting. This discussion will be led by Mr. Frank A. Mallett of the Standard Chemical Company of Des Moines, Iowa.

Closely allied to distribution is the work of the publicity committee. Their report will include the results of a survey of the medical profession which has recently been started to improve the service of the association to the profession.

There will be exhibits of medical advertising by some of the members and many practical advertising and publicity problems will be discussed.

DR. WILBUR L. SCOVILLE WINS THE REMINGTON MEDAL

The greatest honor which the profession of pharmacy can bestow—the Remington medal—has been awarded by the American Pharmaceutical Association to Dr. Wilbur L. Scoville, chief of the analytical department of Parke, Davis & Co., the association announced recently.

The award was made for Dr. Scoville's "distinguished service to pharmacy" in acknowledgment of his outstanding accomplishments as chairman of the National Formulary Committee. The National Formulary is a book of standards for pharmaceutical formulas in use by physicians and pharmacists, and derives its legal standing and official authority by virtue of the Federal Food and Drugs Act. Orig-

inated by the American Pharmaceutical Association in 1888, the book is revised every ten years by a committee chosen by the organization.

The Remington medal, originated by the New York branch of the Association, is awarded annually by a committee of awards consisting of all the past presidents of the American Pharmaceutical Association.

DEATH OF PROFESSOR FERNAND WIDAL

Professor Fernand Widal of Paris, one of the most outstanding continental authorities on both experimental and clinical medicine, died on January 14, 1929, at the age of sixty-six years, of cerebral hemorrhage. In the *Presse Medicale*, Paris, for January 23, 1929, there appears a well written appreciation of Dr. Widal prepared by his former student, Professor J. A. Sicard.

Dr. Widal is perhaps best known to clinicians for his work in connection with the agglutination test for typhoid fever—the Widal test. He is also well known for his fine work on anaphylaxis and the so-called hemoclastic crisis. Widal himself, however, considered that his work in evaluating and testing of kidney function in nephritis and other renal disease, was the most important work of his life.

The loss of one so valuable to science is inestimable, and is one to be mourned by the profession at large.

SOCIETY PROCEEDINGS

SOCIETY PROCEEDINGS

Audubon County Annual Meeting

At the annual meeting of the Audubon County Society Monday, March 25, Dr. Peter Soe of Kimballton was named president; Dr. R. F. Childs of Audubon, vice-president; and Dr. J. M. Fulton of Audubon was reelected secretary-treasurer. Dr. P. E. James of Audubon was selected as the delegate, and Dr. L. E. Jensen as alternate.

Calhoun County Open Meeting

Thursday, April 18, the Calhoun County Society held an open meeting with representatives of the Farm Bureau, Schools, American Legion Auxiliary, Federated Women's Clubs and other lay organizations discussing by invitation different phases of public health activities. The meeting followed a courtesy banquet tendered by the society to the other workers. While many matters were discussed, special endorsement was given (in each instance on motion of lay member) to the project of a county school nurse to be paid by joint support of the Red

Cross Chapters and the various school boards, and to the campaign for diphtheria immunization. (The secretary made a special appeal for scientific support of such a campaign.) The medical profession was also voted thanks for its efforts for the public welfare.

P. W. Van Metre, M.D., Secretary.

Cerro Gordo County

The regular meeting of the Cerro Gordo County Medical Society was held Tuesday evening, April 16, 1929, at the Mercy Hospital. The program began at 8:00 p. m. and was presented by members of the Mercy Hospital staff as follows: Treatment of Varicose Veins (demonstration), C. B. Tice, M.D.; Angina Agronulocytosis (report of case), Treatment of Epistaxis, S. A. O'Brien, M.D.; Some Injuries of the Hip (treatment), B. R. Weston, M.D.; Orthostatic Albuminuria, J. E. Marek, M.D., and Toothache, Its Treatment, T. A. Nettleton, M.D. Following the program the Sisters served a very refreshing and delicious lunch.

Our next meeting has been postponed on account of an invitation from the Floyd County Medical So-

ciety to put on a program for them at Charles City, Tuesday evening, May 28, which we unanimously agreed to do.

T. E. Davidson, M.D., Secretary.

Dallas-Guthrie Society

Thursday, April 18, the Dallas-Guthrie County Medical Society met at the Hotel Panora in Panora. After lunch, C. M. Porter, M.D., Woodward, read a paper on Acidosis and Alkalosis. Dr. Channing G. Smith, chairman of the Council, was then introduced to make a legislative report. After presenting briefly some of the dangers of incoordination in a legislative program, he introduced Mr. Blank, who went into some detail in connection with the passage of those measures in which the profession was especially interested. The society unanimously voted the wives of the members permission to organize a women's auxiliary.

Des Moines County Open Meeting

Tuesday evening, April 9, the Des Moines County Medical Society held a meeting in Burlington to which were invited representatives of the various professional and voluntary agencies engaged in health work. The meeting was devoted to a discussion of coordinating local health activities.

Greene County Cancer Meeting

The Greene County Medical Society met Friday, March 15, in the private dining room of the Hotel Lincoln in Jefferson. Following the banquet, Charles Ryan, M.D., of Des Moines, presented a paper on Cancer. The wives of the members were guests at the banquet and were entertained afterwards at one of the local theatres.

Johnson County

Wednesday, April 3, the Johnson County Medical Society met in the American Legion building to listen to the following program: The Gastric Manifestations of Chronic Colitis, Fred M. Smith, M.D., discussion opened by Howard L. Beye, M.D.; Case Report, Matt Ware, M.D., discussion opened by F. J. Rohner, M.D.

Linn County

Thursday, April 11, the Linn County Medical Society held its regular meeting at the Hotel Roosevelt in Cedar Rapids. Andrew H. Wood, M.D., director of the Psychopathic Hospital at the University of Iowa furnished the scientific program by reading the paper, Knowledge of Emotional Disturbances Useful to the General Practitioner.

Marshall County

Members of the Marshall County Medical Society met Tuesday, April 2, at the Hotel Tallcorn for their monthly dinner and meeting. Following a 6:30 dinner, A. D. Woods, M.D., of State Center, delivered a lecture on Anatomy of the Trachea and reported

a case of inflammation of the pancreas. Other physician members of the society gave case reports. J. J. Noonan, M.D., of Marshalltown, gave a report on the meeting at Iowa City from which he had just returned. Edwin Cobb, M.D., of Marshalltown, reported on a case of Congenital Cataract at Birth and the operation by which sight was restored.

O'Brien County

The O'Brien County Medical Society met Thursday, April 3, at the Legion hall in Hartley, Iowa.

Palo Alto Chest Clinic

The Palo Alto County Medical Society in conjunction with the Iowa Tuberculosis Association and the Iowa Heart Association conducted a clinic at the Congregational Church in Emmetsburg on Friday, April 5th. Dr. John Peck of Des Moines was on hand to advise concerning the lungs of patients who presented themselves, and Dr. Daniel Glomset, also of Des Moines conducted the examination of the hearts. Because of the condition of the roads in this part of the state Dr. Glomset was not on hand when the clinic opened. Fearing that he might have been indefinitely detained in some mud hole those in charge of the clinic telephoned to Dr. Leroy Woodward of Park Hospital Clinic, Mason City, advising him to hustle over to Emmetsburg to take Dr. Glomset's place. But before noon Dr. Glomset put in his appearance, and the clinic went merrily on.

By noon Dr. Woodward also appeared so that the medical men of Palo Alto county had the opportunity of communing with three eminent practitioners instead of two.

Miss Lucy McMichael of the staff of the Iowa Tuberculosis Association had charge of the arrangement and conduct of the clinic. She was assisted by Miss Della Darling, the Palo Alto county Red Cross nurse.

Following the luncheon at the Kermooore Hotel Dr. Glomset gave an address upon Hypertension.

Dr. Hovenden of Laurens, Pocahontas county, came to attend the clinic. Practically all the members of the Palo Alto Medical Society were also in attendance and all went away feeling that the day had been spent profitably; both from the standpoint of renewing acquaintance with friends from without our own society and in knowledge gained.

Harold L. Brereton, M.D., Secretary.

Polk County Cancer Meeting

Following a six o'clock dinner in the main dining room at the Hotel Fort Des Moines, the Polk County Medical Society convened in the Oak Room at 8:00 p. m., Tuesday, March 26. After the election of delegates, Mr. Vernon D. Blank, managing director of the State Society, reported briefly upon legislative activities. A scientific program was presented as follows: Surgical Relief in Terminal Stage of Cancer, Anatole Kolodny, M.D., Iowa City; Certain Aspects of the Cancer Problem, N. F. Miller, M.D., Iowa City.

Pottawattamie County

The Pottawattamie County Medical Society met Tuesday, April 23, at Mercy Hospital in Council Bluffs. The session opened at 10:30 with a presentation of cases. After a 12:30 luncheon, A. H. Montgomery, M.D., associate professor of surgery, Rush Medical College, Chicago, presented Tannic Acid Treatment of Burns.

Poweshiek County

The Poweshiek County Medical Society met Friday, April 26, at the Community Hospital in Grinnell. A further report of the Committee on Care of the Sick Poor was made and C. V. Lawton, M.D., of Grinnell, addressed the society on Some Phases and Observations on the Treatment of Mastoiditis.

Scott County

The Scott County Medical Society held its annual banquet at the Outing Club in Davenport April 9, 1929. Dean Henry S. Houghton of the State University Medical College presented a paper on Pioneer Medical Work in China. After the banquet there was dancing and cards for the physicians and their wives.

Washington County

Tuesday, April 9, the Washington County Society met in the nurses' home of the county hospital in Washington, Iowa. E. D. Miller, M.D., presented Fractures of the Elbow, and Vernon D. Blank, managing director of the State Society, reported upon legislative matters and discussed methods of operating a county society under a blanket contract such as the Washington County Society has recently entered into with the Washington county supervisors.

Waterloo Medical Society

The program of the Waterloo Medical Society which met Wednesday, March 20 at Black's tea room was presented by three newly elected members as follows: Exophthalmic Goitre, J. E. Kestel, M.D.; Infant Feeding, George C. Murphy, M.D.; Meningitis, Burr Boston, M.D.

Webster County

On Tuesday evening, March 16th, there was a meeting of the Webster County Medical Society held at 8:30 p. m. Dr. O. N. Glesne of Fort Dodge, Iowa, gave a very interesting paper on The Present Status of Prevention of Scarlet Fever by Immunization.

The meeting was well attended and there was a good discussion.

John C. Shrader, M.D., Secretary.

The Webster County Medical Society met on the evening of April 30th at the Wahkonsa Hotel. There was a dinner served at 6:30 p. m. followed by a very

interesting and decidedly instructive paper on Diagnosis which was given by Dr. F. J. Rohner of Iowa City, Iowa. Dr. M. J. Kenefick of Algona opened the discussion and this was followed by a short general discussion.

The meeting was very well attended, there being fifty-four physicians in attendance.

John C. Shrader, M.D., Secretary.

Des Moines Academy of Medicine

The Des Moines Academy of Medicine held their final meeting Friday, April 26, at the Hotel Fort Des Moines. The program was furnished by M. Edward Davis, M.D., of Chicago, who spoke on Motion Pictures in Obstetrics. Three reels of pictures were shown; first, face presentation, episiotomy and forceps delivery; second, incorrect method of resuscitation of the newborn; and third, correct method of resuscitation of the newborn.

COMING MEETINGS

Twin Lakes

The seventh annual diagnostic clinic of the Twin Lakes District Medical Society will be held at Twin Lakes, Rockwell City, June 20, 1929.

Dr. Fishbein at Iowa City

The Johnson County Medical Society meeting of June 6 will have Dr. Morris Fishbein, editor of the Journal of the American Medical Association as speaker. By vote of the society, members of adjoining county societies are to be invited.

Chest Clinics Arranged

The Iowa Tuberculosis Association and the Iowa Heart Association have arranged with various county medical societies the following chest clinics:

Date	County	Town
May 18	Bremner	Waverly
May 24	Chickasaw	Nashua
May 31	Washington	Washington
June 7	Van Buren	Keosauqua
June 14	Appanoose	Centerville
June 21	Buchanan	Independence
June 28	Shelby	Harlan
July 11	Lyon	Rock Rapids
July 12	Osceola	Sibley
August 2	Henry	Mount Pleasant
August 9	Adair	Greenfield

Requests from the following county medical societies have not yet been finally scheduled: Harrison, Winneshiek, Greene, Taylor, Worth, and Cerro Gordo.

Iowa Clinical Medical Society Officers

At the business meeting of the Iowa Clinical Medical Society held in connection with the scientific meeting reported in the last issue of the Journal, the following officers were elected: Dr. L. R. Woodward, Mason City, president; Dr. B. F. Wolverton, Cedar Rapids, vice-president; and Dr. C. W. Baldridge, Iowa City, re-elected secretary.

Northwestern Iowa Medical Society

The regular spring meeting of the Northwestern Iowa Medical Society was held April 25, 1929, at Sheldon, Iowa. Following a banquet at the Hotel Arlington, and an address by Edward W. Meis, M.D., the scientific program was presented, which consisted of The Laboratory as an Aid in Diagnosis to the General Practitioner, Frank Reinsch, M.D.; Cancer of the Breast, H. L. Avery, M.D., and Differential Diagnosis of Joint Lesions with X-ray Demonstration, M. J. Nessa, M.D., Sioux Falls, South Dakota.

PERSONAL MENTION

Dr. Donald Macrae is seriously ill at his home in Council Bluffs according to newspaper stories, which indicate that he is suffering from erysipelas and diabetes.

Dr. Richard Lucke, secretary of the Green County Society has sold his practice in Jefferson and is moving to Omaha where he will be associated in practice with his father, Dr. R. S. Lucke.

Dr. Albert J. Jongewaard of Des Moines has purchased Dr. Lucke's office and laboratory equipment and is moving to Jefferson.

Dr. A. C. Conaway, Councilor of the Fifth District, was re-elected mayor of Marshalltown in the recent municipal election.

Dr. H. D. Jones of Schleswig announces that Dr. R. T. Rohwer, graduate of Creighton Medical College and recently holder of a fellowship at the Mayo Clinic, will be associated with him.

Dr. K. C. Peacock has been elected chairman of the Professional Business Men's Bureau of the Sioux City Chamber of Commerce.

Dr. K. P. Hunter, recently graduated from the State University Medical College, has located at Havelock, which town has been without a doctor for the last few years.

Dr. C. B. Luginbuhl of Des Moines addressed the American Association for the Study of Goiter at the meeting held at Dayton, Ohio, March 25, on the subject, Late Cardiac Manifestations in Toxic Goiter.

Dr. Enos Mitchell of Grand River was the guest of honor at a dinner given Sunday evening, April 7, by his friend Dr. George Tallman, for the Decatur County Society. The occasion was to celebrate the fiftieth anniversary of Dr. Mitchell's practice of medicine in Iowa.

Dr. A. R. Anneberg, Dr. S. D. Martin, and Dr. Walter Anneberg have opened a new medical building which was mentioned as follows in the Carroll Herald:

"One of the show places of Carroll is the Anne Mar building recently erected by Drs. Anneberg and Martin on the site of the Windsor Hotel, corner of Fifth and Court streets. The medical building was planned several years ago by Dr. and the late Mrs. A. R. Anneberg and she it was who gave the edifice its name—Anne Mar. Saturday, April 6, marks the silver anniversary of Dr. Anneberg's practice as physician and surgeon in Carroll county, and on that day the building will be thrown open to the inspection of the public."

OBITUARIES

Anderson, Paul O., of Clarence, died at the age of forty-four; graduated in 1910 from the State University of Iowa, College of Medicine, Iowa City. At the time of his death he was a member of the Linn County Medical Society.

Brownson, J. D., of Monona, died at the age of sixty-two; graduated in 1896 from the Northwestern University Medical School, Chicago. At the time of his death he was a member of the Clayton County Medical Society.

Cokenower, James W., of Des Moines, died at the age of seventy-six of pneumonia; graduated in 1877 from the College of Physicians and Surgeons, Keokuk, Iowa, and in 1880 from the Kentucky School of Medicine, Louisville, Kentucky. At the time of his death he was a life member of the Polk County Medical Society.

Darey, J. H., of Sioux City, died at the age of sixty-eight of abscess of the spine; graduated in 1885 from the McGill University Faculty of Medicine, Montreal, Canada. He had been a member of the Woodbury County Medical Society.

Kessler, A. J., of Carroll, died at the age of seventy-one of heart trouble; graduated in 1888 from the Hospital College of Medicine, Louisville, Kentucky. At the time of his death he was a member of the Carroll County Medical Society.

Reed, David W., of Clearfield, died at the age of sixty-two; graduated in 1894 from the Keokuk Medical College, Keokuk, Iowa. At the time of his death he was a member of the Taylor County Medical Society.

Rowntree, Joseph W., of Waterloo, died at the age of fifty; graduated in 1903 from the Trinity Medical College, Toronto, Canada. At the time of his death he was a member of the Blackhawk County Medical Society.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE MEDICAL CLINICS OF NORTH AMERICA**—Vol. 12, No. 4—Philadelphia Number, January, 1929—Per clinic year, July, 1928 to May, 1929—Paper, \$12.00; \$16.00 net. Philadelphia—W. B. Saunders Company, 1929.
- HISTORY OF MEDICINE**—With Medical Chronology—Suggestions for Study and Bibliographic Data by Fielding H. Garrison, M.D., Lt., Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington, D. C.—W. B. Saunders Co., Philadelphia, 1929—Cloth, \$12.00 net.
- MEDICAL CLINICS OF NORTH AMERICA**—Vol. 12, No. 5—Southern Interurban Clinical Club Number—Per Clinic Year, July, 1928 to May, 1929—Octavo of 306 Pages with 40 Illustrations—Paper, \$12.00; Cloth, \$16.00 Net—Philadelphia and London—W. B. Saunders Company, March, 1929.
- MEDICAL CLINICS OF NORTH AMERICA**—Vol. 12, No. 2—Nebraska University Number, September, 1928—Per Clinic Year, July, 1928 to May, 1929—Octavo of 254 Pages with 40 Illustrations—Paper, \$12.00; Cloth, \$16.00 Net—Philadelphia and London—W. B. Saunders Company, 1928.
- IMPERATIVE TRAUMATIC SURGERY, WITH SPECIAL REFERENCE TO AFTER-CARE AND PROGNOSIS**—By C. R. G. Forrester, M. D., F.A.C.S., Price \$10.00—Paul B. Hoeber, Inc., New York.
- THE INJECTION TREATMENT OF HEMORRHOIDS**—By Dr. Charles Conrad Miller,—Modern Surgery Publications—Chicago.
- TECHNIQUE OF CONTRACEPTION, THE PRINCIPLE AND PRACTICE OF ANTI-CONCEPTIONAL METHODS**—By James F. Cooper, M.D.—Day-Nichols, Inc., 15 East 40th Street, New York.
- TUBERCULOSIS AND HOW TO COMBAT IT**—By Francis M. Pattenger, M.D.—C. V. Mosby Co., St. Louis—Price \$2.00.
- YOUTHFUL OLD AGE**—By Walter M. Gallichan—The MacMillan Co., New York—Price \$2.50.
- THE CLIMACTERIC**—Gregoris Maranon—Translated by K. S. Stevens—Edited by Carey Culbertson, M.D.—C. V. Mosby Co., St. Louis—Price \$6.00.
- LOCAL ANESTHESIA**—By Arthur E. Hertzler, M.D.—C. V. Mosby Co., St. Louis—Price \$6.00.
- DEVILS, DRUGS AND DOCTORS**—By Howard W. Haggard, M.D.—Harper & Bro.
- INJECTION TREATMENT OF INTERNAL HEMORRHOIDS**—By Marion C. Pruitt, M.D.—C. V. Mosby Co., St. Louis—Price \$3.00.
- PHYSIOLOGY OF BONE**—R. Leriche* and A. Policard—Translated by Sherwood Moore, M.D., and J. Albert Key, M.D.—C. V. Mosby Co., St. Louis—Price \$5.00.
- SAFEGUARDED THYROIDECTOMY AND THYROID SURGERY**—By Charles Conrad Miller, M.D.—F. A. Davis Co., Philadelphia.
- DIAGNOSTIC METHODS IN INTERNAL MEDICINE**—By Samuel A. Loewenberg, M.D.—F. A. Davis Co., Philadelphia.
- TEXT BOOK OF CLINICAL NEUROLOGY**—By M. Neustaedter, M.D.—F. A. Davis Co., Philadelphia.
- PHYSICAL THERAPEUTIC TECHNIQUE**—By Frank Butler Granger, M.D.—W. B. Saunders Co., Philadelphia—Price \$6.50.
- CLINICAL ELECTROCARDIOGRAMS** — By Frederick A. Willius, M.D.—W. B. Saunders Co., Philadelphia—Price \$8.00.
- BLOOD AND URINE CHEMISTRY**—By R. B. H. Gradwohl, M.D., and Ida E. Gradwohl, M.D.—C. V. Mosby Co.—Price \$10.00.

BOOK REVIEWS

CRITERIA FOR THE CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE

By a Committee of the Heart Committee of the New York Tuberculosis and Health Association, Inc., Arranged in Conformity with the Nomenclature for Diagnosis Approved by the American Heart Association.

First Edition, of 92 Pages. Paul B. Hoeber, Inc., 1928. Price \$1.50.

This is the first complete volume on the criteria for the classification and diagnosis of heart disease. It is the result of several years study by physicians in various parts of the country. The committee does not give proper recognition to Doctor Paul D. White for his original work on this subject.

The criteria are considered in the following order: Etiological, anatomical, physiological, functional capacity, possible heart disease, and potential heart disease.

With the increasing attention that is being given to heart disease today there is need for standard terminology. This need is greatest among practicing physicians, but it is also felt by hospitals, clinics, life insurance companies and health agencies of various kinds. All will "talk a common language" when this plan is adopted. When finally standardized the criteria should be incorporated in the International List of Causes of Death.

The physician may feel that he will find little of practical help from this book but such is not the case. Experience in the use of this diagnostic plan teaches that it is most practical in its clinical application. If the physician will use it he will soon discover that not only is diagnosis simplified, but there will also result greater skill in prognosis. And in no small measure will his therapeutics of heart diseases be improved.

M. M. M.

CERTIFIED MILK CONFERENCES

Held in 1928—Annual Conference of American Association of Medical Milk Commissioners, Inc. and Certified Milk Producers' Association of America, Inc.

This volume details the transactions of the American Association of Medical Milk Commissioners and the Certified Milk Producers' Association as well as the annual conference of the Metropolitan Certified Milk Producers, Inc., with the Certified Milk Producers, Inc., with the Certified Milk Producers Association of America. A number of medical contributions having to do with preventive medicine and milk-born bacterial diseases are included in the scientific reports.

DISEASES OF INFANTS AND CHILDREN

By Henry Dwight Chapin, A.M., M.D., Emeritus Professor of Medicine (Diseases of Children) at the New York Post Graduate Medical School and Hospital, Etc., and Lawrence Thomas Royster, M.D., Professor of Pediatrics and Head of the Pediatric Department of the University of Virginia. Sixth Revised Edition. New York, William Wood and Company, 1928. Price \$7.50.

This volume is a pediatric text-book of considerable merit. In the preface, the authors state that it has been their aim "to present the subject in as compact a form as may be compatible with thoroughness". The book should be of especial value to the busy practitioner who wants to find quickly an accurate up-to-date summary of his problem. The table of contents is well arranged to aid him in this purpose.

The first section deals with the new-born. Modern ideas of infant hygiene are presented. The

"bogeys" of overdress, abdominal binders, and drafts, are properly exploded. Four chapters in the third section are devoted to a consideration of the sick child. Emphasis is placed upon the importance of making a diagnosis by careful history and physical examination and upon the value of general therapeutics with a minimum of drugs. The section on infant feeding is particularly well arranged, and embodies all the recent advances in this field. Chapters on diseases of the various systems follow, and at the end of the book are a number of excellent tables. The volume is well illustrated.

L. F. H.

RECENT ADVANCES IN CHEMISTRY IN RELATION TO MEDICAL PRACTICE

By W. McKim Marriott, B.S., M.D., Lectures of the San Diego Academy of Medicine, Series of 1927. Dean and Professor of Pediatrics, Washington University School of Medicine; Physician-in-chief, St. Louis Children's Hospital. Illustrated. Price \$2.50, 138 pp. St. Louis: The C. V. Mosby Company, 1928.

This is a small volume of 138 pages, easily read in a few hours by those familiar with the subject matter. The average physician, however, will require several readings and some study to master the facts presented. He will find it a valuable contribution to his knowledge of medicine, and an inspiration to the further understanding of the intricate mechanism of "life processes".

A discussion of the present day conception of atoms, molecules, ions, and osmotic pressure leads up to a lecture on acidosis and alkalosis. The third lecture deals with the chemistry of the blood. Two lectures are devoted to a consideration of foods and metabolism, with special reference to vitamins and diets.

The final lecture presents the known facts concerning the endocrines.

L. F. H.

PROBLEMS IN SURGERY

University of Washington Graduate Medical Lectures for 1927. By George W. Crile, M.D., Edited by Amy F. Rowland. Octavo Volume of 171 Pages, Illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$4.00 Net.

This volume presents a series of clinical lectures delivered by the author for graduate students at the University of Washington during the summer of 1927. He discusses in considerable detail treatment of pre-malignant and malignant conditions, (chiefly of the face), presenting many illustrative cases. His technique for operations on the bad-risk patient has been worked out with great care and is based, not only on a most generous experience, but also upon his interpretation of certain laboratory experimentation. In another lecture he has offered clinical and

experimental evidence relative to the mechanism of hyperthyroidism, based upon his concept of the body as a bipolar unit, which, if not accepted as explanatory, will at least furnish food for thought. The closing chapter of his book is devoted to an interpretation and brief summary of his "bipolar theory" as applied to the entire human organism—a theory which has not, as yet, received general acceptance.

The entire volume will be found most interesting not only for the surgeon, but for any student in medicine, since the problems which Dr. Crile has discussed are timely ones.

INTERNATIONAL CLINICS

Volume III; 38th Series, 1928. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. with the Collaboration of Charles H. Mayo, M.D., Rochester, Minnesota. Published by J. B. Lippincott Company, 1928.

This volume maintains a high standard of medical publication already set by previous numbers of the International Clinics. The opening paper by Dr. Charles E. De M. Sajous entitled "Rational Endocrinology and Organotherapy as Foundations for Greater Efficiency in Practice" furnishes a summary of our proven knowledge in this field of study, and because of the careful manner in which this subject is reviewed, will furnish a most safe guide to the physician employing any form of glandular therapy. The 1928 Harrington Lectures delivered by Dr. Raymond Pearl of Baltimore furnish some surprising discussions relative to alcohol and longevity in the first lecture, and the prevalence and distribution of cancer in the second lecture. These conclusions are based on a very large statistical study. A study of the physical and mental diagnostics of mongols by Dr. Ira S. Wile and Samuel G. Orgel will be of particular interest to those physicians enjoying a juvenile practice or whose work brings them in contact with the school age child. Sir Humphrey Rolleston presents in his usual careful fashion a summary of our present knowledge concerning normal and abnormal blood-pressure. The outstanding surgical contribution is that by Dr. Ralph B. Bettman entitled "Extra-Pleural Thoracoplasty".

INTERNATIONAL CLINICS

Volume IV; 38th Series, 1928. Edited by H. W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of Charles H. Mayo, M.D., Rochester, Minnesota. Published by J. B. Lippincott Company, 1928.

The four opening papers reported in this volume have to do with aging and the processes of old age. They will be found of particular interest to those desiring recent and authoritative information on the problems of senescence.

"The Relationship of Physical Signs to the Extent and the Progress of Acute Appendicitis" is the title of a very useful discussion by Dr. R. J. Behan, while the paper presented by Dr. Gustavus C. Bird fur-

nishes much useful data in the x-ray diagnosis of appendicial conditions. "The Modern Physician's Armamentarium" furnishes the theme of a very helpful discussion by Dr. Solomon Cohen in which he furnishes a well-balanced evaluation of present day medicine. In the closing pages of this volume will be found a discussion of a series of medical questionnaires which in a very brief fashion serve to summarize current opinion in many fields of modern practice.

THE INFANT AND YOUNG CHILD

Its Care and Feeding from Birth Until School Age. A Manual for Mothers. By John Lovett Morse, M.D., Edwin T. Wyman, M.D., and Lewis Webb Hill, M.D., of Harvard Medical School and Children's Hospital, Boston, Massachusetts; 12 Mo of 299 Pages, Illustrated. Philadelphia and London; W. B. Saunders Company, 1929. Cloth \$2.00 Net.

This volume has been prepared to give a parent information relative to the proper care of a child, in health or disease, from the time of his birth until his sixth year. The authors have embodied in the book such information as in their experience has been most frequently sought by parents. It is not the purpose of the volume to replace the physician or his instructions, but rather to assist the parents in cooperating intelligently with their physician.

The book contains modern advice and instructions on clothing, breast feeding, weaning, milk modifications, artificial foods, indigestion, recipes, sleep, exercise training emergencies, vitamins, rickets, and ultra-violet light.

The volume is certainly well written and authoritative. As a guide for the instruction of parents, it is not only safe, but one of the most useful yet written. The book is well indexed so that it will serve the mother for ready reference.

SPINAL ANESTHESIA

Principles and Technique, by Charles H. Evans, M.D., Clinical Assistant, New York Post-Graduate Medical School and Hospital, Lying-In Hospital of the City of New York; Introduction by W. Wayne Babcock, M.D., F.A.C.S. Foreword by Charles Gordon Heyd, M.D., F.A.C.S.; 41 Illustrations, 3 in Color and 1 Folding Colored Plate. Paul B. Hoeber, Inc., New York. MCMXXIX.

This monograph expresses the latest thought on this important subject. It is complete, thorough, and practical. Its reliability is assured because of the generous experience of the author with the method. He treats in successive chapters all factors concerned in a successful operation of this anesthetic: the selection of patients; indications and contra-indications of the method; technique of inducing spinal anesthesia, including a consideration of spinal

areas; the various drugs employed; phenomena accompanying and complications of spinal anesthesia; mortality and morbidity; and a general consideration of the advantages and disadvantages of the method.

The descriptions are clear and the well chosen and equally well reproduced illustrations exemplify the text so thoroughly that the details of the technique should be readily understood. As an example of the book-makers' art the volume is outstanding.

WHAT EVERY ONE SHOULD KNOW ABOUT EYES

By F. Park Lewis, M.D., F.A.C.S., Vice-President, National Society for the Prevention of Blindness. The National Health Series, Edited by The National Health Council. Funk & Wagnalls Company, New York and London, 1928. Price, 30 Cents.

This small volume is written in the fascinating manner characteristic of the author. It is surprising that so much authoritative information could be presented in so small a compass. Dr. Lewis has introduced his subject by a summary of the necessary anatomy and physiology of the eye. Following this chapter, are chapters dealing with errors in refraction, infections, diseases of the eyes, inheritable disease affecting the eyes, and a highly useful discussion of the hygiene of the eyes. The entire volume is written in non-technical terms.

DIABETES AND ITS TREATMENT

By Frederick M. Allen, M.D., Director of the Physiatrie Institute, Morristown, New Jersey. The National Health Series, Edited by The National Health Council. Funk & Wagnalls Company. New York and London, 1928. Price 30 Cents.

This is a manual written for the information and guidance of the diabetic patient. It furnishes the general information needed by the patient for a proper appreciation of his condition. Treatment with and without insulin is discussed, and the necessary rules for figuring and establishing diets, together with tables of food values, presented. This inexpensive manual will prove valuable to any physician treating diabetics.

CARE OF THE MOUTH AND TEETH

By Harvey J. Burkhart, D.D.S., LL.D., Director Rochester Dental Dispensary, Rochester, New York. The National Health Series, Edited by The National Health Council. Funk & Wagnalls Company, New York and London, 1928. Price 30 Cents.

This small volume presents in a popular fashion the scientific aspect of oral hygiene, orthodontia, pyorrhea, and other mouth infections. It is written by an experienced authority in every-day language, and will appeal to any intelligent reader because of its clearness. His discussion of the care of the teeth

in infancy and childhood is excellent, and should be read by every mother with young children.

ANGINA PECTORIS

By Harlow Brooks, M.D., Emeritus Professor of Clinical Medicine, New York University; Visiting Physician, City Hospital, Etc. Harper's Medical Monographs; 176 Pages. Price \$2.50. Harper & Brothers, Publishers, New York City, 1929.

The author of this second Harper's Monograph presents his impressions of the various phases of the syndrome discussed not as a compilation from the literature, but rather as the summation of a large personal experience with such patients extending over many years. He has discussed the etiology, so far as it is known at the present time, and has given careful consideration to the pathology, and pathologic physiology as developed from his observations. Symptomatology, including obscure types of the syndrome, differential diagnosis, especially between true and false angina, and detailed treatment are presented clearly and comprehensively.

Dr. Brooks assumes a new outlook for angina patients or those predisposed to it by reason of heredity or other etiological factors. He advances the idea that angina may not be fatal or that if treated in its early stages, the result may be regarded as an effective cure. It is possible, writes this authority, to so regulate the lives of those predisposed to this condition, that they may escape it.

The monographs in this series should be of great value to physicians who now find it difficult to keep abreast of the latest developments because of the size and complexity of the literature, and the expensiveness and bulk of the average medical book.

GETTING READY TO BE A MOTHER

By Carolyn Conant Van Blarcom, R.N., Formerly Assistant Superintendent and Instructor in Obstetrical Nursing and the Care of Infants and Children at the Johns Hopkins Hospital Training School for Nurses. Introduction by J. Clifton Edgar, M.D., Emeritus Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. Second Edition Revised. With Eighty-two Illustrations. Price \$1.75. New York. The MacMillan Company, 1929.

"The outstanding causes of maternal death and injury are known to be preventable." This volume, written in full recognition and appreciation of this truth bears a message which is so inspiring in its presentation that it assures the effective cooperation of the expectant mother. It presents in clear understandable language the fundamental principles of obstetrics necessary to a proper understanding of reproduction and child birth. Fear and superstition are dispelled by explanation and reason and throughout the pages there is reflected that fine attitude of

optimism and encouragement so essential for a proper psychology at this time.

The material presented is drawn from a store of well proven facts; the scope of discussion well measured; the style suited to the technical knowledge of the average mother; the presentation is dignified, yet altogether warm and friendly. As a volume to be placed in the hands of young women looking forward to motherhood it ranks easily with the best.

THE SURGICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 9, Number 1. (Mayo Clinic Number—February, 1929.) W. B. Saunders Co. Philadelphia and London. Paper, \$12.00; Cloth, \$16.00 Per Year.

This volume by the surgical staff of the Mayo Clinic is excellent. The material used is very well prepared, and there is a great diversity of cases, many of them being quite rare. There are no presentations without merit, and several articles are of outstanding interest. Luis A. Passalacqua and E. Starr Judd give a preliminary report on the use of oxygen post-operatively as a prophylaxis against pulmonary complications. They administered the gas subcutaneously by means of an original apparatus. Jesse L. Bollman and Frank C. Mann present an article on the surgical significance of urea, indicating that complete removal of the liver is the only means of producing entire cessation of urea formation. A review of the use of anesthetics in the Mayo Clinic for 1927 is given by John S. Lundy, which demonstrates that ether is still the anesthetic of choice in the largest percentage of cases. The review would indicate an increasing use of carbon dioxide as a respiratory stimulant. Stuart W. Harrington presents some interesting thoracic conditions. Verne C. Hunt and Benjamin H. Hager give a most interesting review of 271 cases of malignant renal neoplasm. Quite an extensive series of cases with obstruction of the upper urinary tract is given by Waltman Walters. Louis A. Buie gives the detailed technique of a highly successful operation for anal fissure.

F. W. F.

THE MEDICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume XII, Number II. (Nebraska University Number, September, 1928.) Octavo of 254 Pages with 40 Illustrations. Per Clinic Year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London. W. B. Saunders Company, 1928.

This University of Nebraska number contains many articles of interest to the general practitioner. In fact, there are very few clinics presented of an abstract nature. The outstanding paper, perhaps,

from the standpoint of internal medicine, is one contributed by Dr. E. L. Bridges entitled "Hypothyroidism". An article entitled "Physical Examination of the Heart" by Dr. W. N. Anderson, sets forth a number of useful and practical diagnostic procedures. The pediatrician will find a number of articles of interest. Perhaps the one dealing with "Disturbances in Growth" by Dr. Clyde Moore, together with the discussion of "Vomiting in Children" by Dr. H. M. McClanahan and Dr. J. A. Henske are the most outstanding.

"COUNCIL PASSED"

Notification is being sent to the medical profession that the well known Haley's M-O magnesia oil has been accepted for N.N.R. of the American Medical Association. Henceforth the product will be known as magnesia-mineral oil (25) Haley. The manufacturers have combined liquid petrolatum and milk of magnesia in the form of a permanent, uniform, unflavored emulsion. The taste is not at all unpleasant and the absence of any distinct flavor prevents the habitual user from growing tired of it.

The value of mineral oil as a lubricant and emollient for the treatment of certain forms of obstipation has been well established. In many cases, however, there is added to the need for lubrication the indication for the use of a mild laxative and antacid for which purpose years of clinical use have demonstrated milk of magnesia to be ideal.

Magnesia-mineral oil (25) Haley may have therefore a therapeutic field considerably broader and more diversified than is the case with either one of its ingredients considered singly.

The little booklet recently mailed to physicians, "A Gift from the Gods" met with a very flattering reception and in the near future another feature will be sent to every physician in this country which will undoubtedly be not only welcome but given a permanent place in the doctor's waiting room, private office or home.

Another policy of the makers of this product is to be generous in the matter of samples for clinical trial and requests for same are always given prompt attention. The Haley M-O Co., Inc., Geneva, New York.

NEW AND NON-OFFICIAL REMEDIES

Haley M-O Co.:

Magnesia—Mineral Oil (25) Haley.

H. K. Mulford Co.:

Perfringens Antitoxin—Mulford.

National Drug Co.:

Diphtheria Toxin-Antitoxin Mixture.

Parke, Davis & Co.:

Tetanus—Perfringens Antitoxin, Refined and Concentrated.

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DES MOINES, IOWA, JUNE, 1929

No. 6

IOWA STATE MEDICAL SOCIETY PRESIDENT'S ADDRESS*

THOMAS U. McMANUS, M.D., Waterloo

The development of scientific medicine during the present generation has no parallel in commercialism, invention nor industry, when measured in benefits to humanity. Within the memory of physicians here present have come discoveries and usages which have revolutionized the practice of the healing art. With this unprecedented development have arisen problems which have confronted no other age and no other profession.

For the previous generation of physicians grammar school preparation, with a year or two of didactic teaching in a medical college was quite sufficient. It now requires eight years of time and about ten thousand dollars in money to convert a high school graduate into a practicing physician. That does not take into account the young man's earning capacity during the time of preparation. Speaking financially the young physician now starts his professional career with not less than a twenty thousand dollar investment.

RURAL DISTRICT PRACTICE

This suggests to us one of the medical problems which must be faced by society. With students being trained for modern hospital practice, who will care for the rural sick in thirty years from now? It is none too soon for rural communities to begin the solution of this problem. It is not a physician's problem as much as it is a social problem. No community can exist as a social entity without the combined benefaction of the clergyman, the teacher, and the physician. Without their benign influence civilization is unthinkable. Lacking either leg of this tripod the social structure must fall.

For purposes of this discussion by rural district is meant a community fifty or more miles

from a commercial center. The small hospitals, with five to twenty beds, have done a commendable service. Far be it from me to speak slightly of the good they are doing. But, standards are rising, and the time will soon come when overhead expense will make the maintenance of small hospitals impossible. Rural districts should begin the consideration of building and equipping modern hospitals which are accessible. Only by so doing will rural communities be attractive to scientifically trained physicians and the health of such communities safeguarded.

HEALTH AND HYGIENE ACTIVITIES

The marvels of preventive medicine have been very attractive. The laity, seeing how much has been accomplished in prevention and control of disease, are anxious to add their influence for the betterment of humanity. Physicians, notwithstanding their training and constant dealing with health problems, have not been able to look far into the future and see all the difficulties. But, having traveled a road with frequent and sharp turns, we have developed a sense of caution, and have advanced conservatively, watching for signals. Advancing with these precautions, we have not always made as high speed as have the lay auxiliaries.

In working out the problems of public health the spirit of the laity is commendable, and their cooperation most valuable. Too often some members of the medical profession have been impatient. Aid societies; parent-teacher associations; social workers; public health nurses; each have occasionally given advice and made recommendations not pleasing to us. That is no reason for condemning them, or refusing to cooperate with them. Most of us have given bad counsel, or recommended measures that we cannot now endorse. Making mistakes is a part of making progress, and as leaders in health and hygiene, we must be large enough and broad enough to cooperate as best we can with all who are impelled by a righteous purpose. It is impossible

*Presented before the Seventy-Eighth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 8, 9, 10, 1929.

to estimate the amount of aid in teaching hygiene and preventive medicine now available to the medical profession, if we will but take advantage of the situation. If we neglect these opportunities we will have abandoned the field to quacks and cults.

In this connection it will be profitable for us to consider health activities in other states. A review of the report of the educational committee of the Illinois State Medical Society, at their 1928 annual session, is instructive and most encouraging. This report emphasizes that the public are highly appreciative of the instruction which the medical profession is giving them. The medical society cooperated with the State Dental Society, Federation of Women's Clubs, Parent-Teacher Associations, and the State Department of Health, through the Child Hygiene Division.

One of their effective means of teaching the public was through a speakers bureau. Their speakers bureau is made up of physicians throughout the state, who, under the guidance of the educational committee, could be called upon to address social organizations, clubs, schools, colleges, etc. During the year physicians addressed 640 meetings, with a total attendance of 175,000. The attendance was small compared with the population of Illinois, but when you consider that these 175,000 listeners were firebrands scattering throughout society, it is impossible to estimate their influence for good. Besides these 175,000 we should take into consideration that nearly every meeting would be reported in the local papers, and in that way the influence would be broadcast. The Nebraska program was practically the same on a smaller scale.

One of the results of the forming of the speakers bureau was the request for addresses coming from many clubs and societies. It is one thing to address a club on your own initiative, and quite another and more influential thing to give that address on the invitation of the club. A very timely placing of these addresses was before the teachers' institutes. It is most encouraging that the public is anxious for facts pertaining to scientific medicine, but such publicity must be carefully safeguarded lest the public become misinformed and the attempted progress become a boomerang.

A part of the report of the Illinois educational committee is so instructive that I wish to quote as follows: "It is evident, through the number of calls that come, that lay organizations are beginning to realize that if they want a health talk which they can depend on, and a speaker who

knows how to present his subject in a forceful, convincing manner, the request should be made through the educational committee. The committee has very definite policies regarding the talks made by physicians. The speakers understand that personal advertising must be avoided, and that treatment is not to be discussed. Without exception, the speakers are announced as coming through the courtesy of the educational committee of the State Medical Society. Physicians are always requested to fill appointments outside their own counties, and the committee assumes the expense of their travel and entertainment". During the past year the Iowa State Medical Society has made a start in health education. The experience justifies the conclusion that Illinois is absolutely right in always sending speakers outside their home county. In no other way can criticism and humiliation be avoided.

PHYSICIANS AND THE PRESS

As you are well aware many states have been active in health education of the laity through the press. This is a subject for a whole evening's discussion. I mention it only to ask you to think it out. Just one word of warning; as medical associations have given publicity to matters of personal and public health, the purpose has been sometimes misinterpreted. Physicians, either misguided or tainted with quackery, have taken the opportunity to contend that the medical profession has changed its ideals regarding advertising, and that personal advertising is endorsed as ethical practice. Such men have failed or refused to see that health education is as far from personal advertising as the East is from the West. The same high principles of medical ethics as were announced by Hippocrates, and have sustained the medical profession to their present day, are still a vital force among decent medical men everywhere.

As a precaution against fallacious teaching, and protection against being misquoted, educational committees have usually found it to be for the best interests of all concerned to have the physicians write and read their addresses. News reporters take a great deal of liberty with the man who speaks impromptu. When the address is written and read the reporter has a more wholesome respect for accuracy.

Objectors within the hearing of my voice possibly already have said, "What do I care what is going on in other states? What right have the public to ask me to gratuitously teach them how to avoid needing my services?" The medical profession has not been aggressive in bringing

about the situation. This is the age of clubs; and clubs, through influences for which the profession is not responsible, are interesting themselves in matters of personal and public health. Leaders of the profession have lent their influence and assistance. Today it is a condition, not a theory, and it is for us to accept the condition as it is, and not theorize as to what the condition ought to be. In my judgment it is the greatest opportunity ever presented the medical profession. If we neglect this opportunity the cults will take it up. I hope no physician in Iowa will overlook, or lightly consider, this special privilege in directing the thoughts of the public in matters of personal and public health.

MEDICAL EDUCATION A MAJOR PROBLEM

Medical education is one of the largest problems concerning the medical profession of this generation. With the completion of our splendid plant at Iowa City, our physical equipment for teaching medicine is second to none in the Middle West. Every physician should be particularly proud that such ample provision has been made in order to perpetuate our profession in accordance with its highest ideals.

We are all quite familiar with the Perkins and Haskell-Klaus laws. We are also familiar with some of the unfortunate experiences of the Medical College. Periods of unpleasantness come to every educational institution, and those of Iowa are not out of proportion to the troubles experienced by practically all the medical colleges of the Mississippi Valley.

The one difficulty which has been experienced by all medical colleges, arises from the pertinent fact that to sustain a medical college there must be clinical material, and that clinical material would be cared for by physicians in private practice if the college did not exist. In short it is a personal question. You and I must decide whether we will occasionally sacrifice for the support of our own institution, or whether we will not. Possibly the laws need changing. Possibly the faculty has made mistakes. It is not my purpose at this time to point out faults, nor suggest remedies; but it is my privilege, and I believe it is my duty, to remind you that the medical department is our school and not a foreign institution. It is your college and mine, and having done the best possible in making an equitable distribution of responsibility, we should give unstinted support and forget the cost. I am out of sympathy with any physician who takes the attitude that he has no obligation toward medical education. For thousands of years eminent phy-

sicians have given the best that was in them to build up the fundamentals of medicine, and we of this generation are profiting by their contributions. No physician could ever possibly pay his indebtedness to the profession that has gone on before. The man who asserts his independence of the past, and denies his indebtedness to organized medicine, thereby aligns himself with the ingrate and the quack. As well might a man deny his obligations to the mother who gave him birth, as for a physician to say that he paid for his education and, therefore, his obligations have been cancelled.

In the past year much that was objectionable in the receiving and handling of clinical material at the Medical College has been corrected. It is not to be expected that patients referred from ninety-nine counties, consigned by scores of judges, sent by more than a thousand physicians, would all land at the University Hospital without faulty commitment. The human machine does not work to such perfection. At the receiving end is a small army of clerks, nurses and physicians. Try as best they may, some errors will creep in. Most responsible of all are the patients. Assuming them to be people of average integrity, there is abundant opportunity for honest mistakes. Patients do not always clearly understand those who commit them to the hospital, nor those who treat them in the hospital. Unwittingly they misquote and misrepresent. That explains most of the trivial misunderstandings between the physician in the field and the physician in the state hospital.

Another angle of the question has somewhat agitated the laity, particularly the legislature. It is the question of financial support. The financing of the hospital and medical college deserves most serious attention. Responsibility for the indigent, questions of commitment and transportation, records, abuses, corrections, and many other questions are worthy of consideration. The problems are too large and too serious to be solved without the most careful deliberation. During the coming year a thorough study should be made of all phases of medical education in our state. A survey of conditions influencing medical education is being made by the authorities of the College of Medicine and should be continued with the active cooperation of this Society during the coming year. At the next annual meeting this group should be invited to present a statement of their findings and conclusions. Based on information coming from that and other sources constructive legislation could be suggested, or present laws endorsed.

UNIVERSITY EXTENSION

There is another phase of medical education quite as important, but sadly neglected. That Iowa is well equipped for teaching undergraduate medicine goes without argument. In this state there are approximately 3,260 physicians practicing medicine. Of this number about 1,000 were graduated during the past ten years. That leaves a balance of 2,260 who have been ten or more years out of medical college. It is conservative to assume that 70 per cent of medical practice in Iowa is being done by physicians who were graduated ten or more years ago. Medicine, in a single decade, has made decided progress, and it is just as important for the public welfare that physicians who have been a number of years in practice should enjoy all the advantages of modern medicine, as it is for the recent graduate to have had the last word in scientific attainment. To this end, for the good of patients more than for the benefit of physicians, advanced medicine should be made easily accessible to every physician.

It is neither possible nor desirable that all physicians should abandon their practice to do advanced study at the Medical College. But it would be practical for the Medical College to do extension work among physicians, just as is done by the State Teachers College and the Agricultural College for teachers and farmers. With the present financial support, I am advised that it would not be possible for our Medical College to do extension work. It is a goal worthy our ambition that in the near future the State College of Medicine should have such support as would enable them, on request, to send the best men of their faculty to give systematized post-graduate courses to petitioning medical groups in any part of the state. This is not a dream. It is being done elsewhere under conditions similar to those in Iowa, and it is a success.

FEE-SPLITTING

There is another problem which is vitally affecting the practice of medicine in many of the communities of Iowa. I have no apology for discussing with you the question of fee-splitting. The world over, the confidential relationship between attorney and client, clergyman and communicant, and between physician and patient, is as sacred as the vows of matrimony. The patient entrusts his life to his physician. If a surgeon or a consultant is needed the family physician is entrusted to name that consultant. The patient makes a complete surrender of himself to his physician, and if there is any circumstance

between man and man that demands unselfish, high-minded, untainted action, it is when the patient entrusts his life to the doctor. Is this a time when the doctor will call to his aid the best that is accessible? Or, will he stoop to commercialize the situation and call the surgeon who will split to the best advantage?

If this were limited to a question of individual conduct there would be no place for it in such an address, but we are discussing problems confronting the entire medical profession of Iowa. One of the big problems is to make the influence of the profession count for the most and the best. The profession does not have the influence that it could have if all physicians were in harmony; but harmony cannot exist when some members of the Society are violating accepted principles of conduct.

Fee-splitting is as unfair as it is dishonest. It is an indefensible injustice to the efficient, ethical surgeon of superior ability, who is too high-minded and honorable to play the game. The very essence of fee-splitting is fraud and dishonesty. It lifts the incompetent at the expense of the competent. The profession can never expect to have the standing which the honest element of the profession deserves, as long as there are men who will sell their honor for a "mess of pottage".

What defense have we in requiring a young man to equip himself for a long period of years, at high cost, if we turn him out to compete with inferior men who sustain their reputation by building fame and practice by fee-splitting? There is nothing about this question that requires profound wisdom. When it becomes honorable to cheat, and lie, and steal, it will then be honorable to sell our patients to the highest bidder.

Fee-splitting is considered a crime of sufficient gravity that it is given specific mention in the statutes of the state. Section 2493, of the Code of Iowa, 1927, declares that, "Division of fees or agreeing to split or divide the fees received for professional services or assisting in the care or treatment of a patient without the consent of said patient or his legal representative" is a cause for the revocation of a license to practice medicine in Iowa.

Dr. Samuel W. Lambert, of New York, addressing the 1928 graduating class of Cornell Medical College, said: "Much has been printed of late concerning a questionable practice known as the splitting of fees. Investigation has shown it is more widespread than it was supposed to be and that it is endorsed more or less publicly by

some members of the profession. It is conceived in dishonor, it is carried on in secret, it involves the payment of money to one person for the unknown benefit of another. It is a secret system of bribery to further a consultation or special practice on the one hand, and of graft to increase a professional income at the expense of an exploited patient on the other. By these facts it carries its own condemnation."

The crime of fee-splitting is not confined to the members of the American College of Surgeons. It is just as offensive outside as inside the College. The only difference is, among the members of the College it is dishonest on more counts. The best defense the medical profession has ever had, or ever can have, is that it has put the good of humanity before personal gain or commercialism. When we surrender our highest principles of morality and professional ethics, we descend close to the level of the cults that are seeking to displace us.

MANY IMPORTANT QUESTIONS

It is not possible, in a brief discussion, to treat all the subjects that are pressing for attention on the part of the medical profession. Health Laws, Hospital Control and Efficiency, County Health Units, Medical Practice Acts, Basic Science Laws, Workmen's Compensation, and many others—are all topics of sufficient magnitude to occupy our attention for a full evening.

It is expedient that there should be a closer cooperation between our State Health Department and the medical profession. All too prevalent has been a belief that the major function of the Health Department is that of law enforcement, with a critical attitude toward practicing physicians. The premise is well taken only by those who are violators of just laws, rules and regulations. The State Health Commissioner is a devotee to the highest standards of ethical practice. His devotion to the advancement of scientific medicine is equaled only by his untiring efforts in prevention of disease. His ideals are praiseworthy. Cooperation should be unequivocal.

Our organization is efficient if operated to capacity. The foundation is with the county society, which is usually a force for good only in proportion as it keeps in touch with the councilor of the district, and works in harmony with the component county societies. The district councilors hold the most important position within the State Medical Society. They should have more authority and their prerogatives should be more

accurately defined. To that end, and for other reasons, the Constitution and By-laws should be immediately revised. The councilors are the connecting link between county societies and the State Society. Leave out the connecting link and the county society loses its influence, and the State Society is little more than a passive organization, entertaining itself with an annual scientific program and a few social stunts. The district councilor is the steadying influence which prevents our turning somersaults. If he keeps abreast of his job he knows more about the needs of the profession than any other man in the state. His position on the one hand prevents his narrowing his interest to immediate local needs, and on the other hand prevents his scattering his efforts to the extent of defeating his own purposes. My advice to every county society is to keep very closely in touch with the councilor of their district. In order to do that the state should be redistricted into ten councilor districts: three districts along the north border; three districts along the south border; and four districts through the central belt from east to west. This would make all the counties of each district conveniently accessible to their councilor. The present districts are the same as the congressional districts, and are indefensible, except for advantages to the dominating political party.

As individual county societies we cannot do much. United in purpose, and working in harmony, with unselfish motives, we can be a power for good. High standards of skill and professional ethics are paramount in maintaining public confidence. Through the ages our profession has been revered for doing an unselfish service, always considering the good of humanity above personal gain.

Ours is a profession; not a business. The essential difference between the medical profession and the cults is clear-cut. The one is dedicated to service for the good of humanity; the other a system of tricks and chicanery preying upon the sick and the unfortunate. Scientific medicine is founded upon basic sciences, and is devoted to the eradication of disease and the extension of life. The cults minimize science, appeal to the credulities of the unfortunate, and are dominated by selfish motives. An ethical medical profession is the sick man's only protection against exploitation.

The ideals of our profession appeal to the fair-minded. Legislators are sympathetic to the requests of those dominated by a righteous ambition. Cults and antagonists can do us no permanent harm. If we are in danger it is from within.

If the medical profession is confronted with one problem greater than any other, it is the problem of keeping constantly in mind that the practice of medicine, at its best, is dominated by the virtues of honesty, courage, and fidelity.

DIFFERENTIAL DIAGNOSIS IN UPPER ABDOMINAL PAIN*

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The past few decades have seen the development of a variety of diagnostic instruments. Some of these have proven of little value and have been discarded; others have won a place in the physician's armamentarium, and have undergone a process of gradual evolution. Yet today as in past centuries, the diagnostic aid of dominant importance is a subjective symptom, pain. It is most often pain which forces the patient to seek medical advice, and it is one of the best evidences of functional and organic pathology. Yet to the physician pain is also one of the most tantalizing and unsatisfactory diagnostic pointers, for he has no measure of its character or severity, no accurate method even of determining its exact site. The difficulty is particularly great in the case of upper abdominal pain, since we have here so many structures, topographically and functionally intimately related, that pain is suggestive of pathology rather than of any particular lesion. In attempting to make a differential diagnosis, we are accordingly forced to call to our aid a variety of other subjective and objective signs, and to have recourse to such varied diagnostic instruments as modern science has made available. A detailed consideration of each and all of the symptoms and methods would form an extensive library, but there are certain significant diagnostic points which may form the basis for a tentative diagnosis, and it is of some of these that I would speak.

Carcinoma of the cardiac portion of the stomach or the terminal portion of the esophagus is often associated with severe pain by the time the patient consults a physician, though during the months of its insidious onset, the history may record only intermittent dysphagia, gradually increasing in severity. The pain is usually described as severe, though dull in character, and intensified on swallowing, and is located beneath the xyphoid process with occasional radiation into the chest. A history of loss of strength and weight is the rule. Often there is vomiting of

food which has undergone no digestive changes though eaten some hours before. With a history of dysphagia, associated with some of these other symptoms, the diagnosis lies between cardiospasm and carcinoma of the cardia. The presence of occult blood in the stool speaks for the latter but where an attempt has been made to pass a stomach tube, hemorrhage is by no means conclusive evidence of malignancy. More significant is systemic evidence of hemorrhage—the cachectic appearance of the patient and a secondary anemia, some degree of which is always to be noted. The fluoroscope is here our best diagnostic aid. When it reveals an obstruction at the cardia, the patient may be given tincture of belladonna leaves. At the point of tolerance, the obstruction due to spasmodic contraction is usually relieved unless it is of long standing.

In carcinoma of the fundus or of the pyloric portion of the stomach, pain is also a relatively late symptom, and of indefinite character—a constant dull ache beneath the xyphoid, sometimes increased by the taking of food, and rarely relieved by it. When pain has become a troublesome symptom, other more characteristic signs are usually noted. There is loss of appetite; aversion to certain foods, particularly to coarse foods, is often marked. The patient may appear cachectic, and if the walls of the abdomen are thin, a mass is sometimes palpated in the epigastrium. Vomiting often occurs, and its coffee-grounds character, or the presence of food taken a day or two before may arouse suspicion. Occult blood is usually present in the stool, and if it is deemed safe to pass the stomach tube, it is also noted in the stomach contents, but here particular caution is necessary to exclude blood from a casual lesion due to passing the tube. The gastric acidity is low, and there may be no free HCL, a fact which may be determined by examining the vomited material, thus obviating the necessity of passing a tube. Under the fluoroscope, the additional evidence obtained usually makes diagnosis possible. In very early cases, cancer may be confused with ulcer so that exploratory operation becomes advisable whenever ulcer under hospital management cannot be relieved within a reasonable period. In outlet ulcer with much scar tissue formation, differentiation is again difficult, but unless the obstruction can be relieved by ulcer treatment and tincture of belladonna leaves, operation is advisable whatever the diagnosis.

To operate in the presence of lues of the stomach is a more grievous error, but here the great disparity between the symptoms and the marked pathology revealed under the fluoro-

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scope, periodicity, and a positive Wassermann should make differentiation possible. Hour-glass stomach may suggest carcinoma, particularly if the constriction is so great as seriously to interfere with nutrition, but x-ray studies together with laboratory findings, and a consideration of the history make differentiation possible in most cases. The recognition of the case as a surgical one is sufficient from a practical standpoint, since surgical intervention is needed in either case.

The pain from ulcer of the stomach or duodenum is described as a burning, or a hunger, pain below or to the right of the xyphoid process, sometimes radiating into the chest. More characteristic is the onset of pain from a half to three hours after the intake of food. This pain is obviously due to chemical irritation of the eroded surface by the acids liberated in the process of digestion, so that relief from pain secured by taking more food, by alkalies, or by gastric lavage is readily understood. Administration of alkalies is an effective diagnostic aid, but if soda bicarbonate is given alone, the relief from pain is not necessarily suggestive of ulcer. The relief may be due rather to lessening of intra-abdominal pressure by the belching induced by soda, and is noted in colitis, in gall-bladder disease, and in various other conditions. If, however, 30 grains of heavy magnesium oxide are given with 30 grains of soda bicarbonate, there is little belching and



FIGURE 1. Carcinoma of the stomach at the juncture of the pars cardiaca and the pars media.



FIGURE 2. Syphilis of the stomach. The gross pathology evidenced by the X-ray was, characteristically, at marked variance with the symptoms.

relief may fairly be attributed to the alkali. Often there is a history of recurrent attacks of pain over a period of years. This chronicity is more significant if associated with occasional attacks of vertigo, accompanied by what the patient describes as "a queer feeling" in the epigastrium, and followed by tarry stools. Vomiting may or may not occur, or it may be induced by the patient who has found that this brings relief. There is no anorexia, though the diet may have been greatly restricted, in quantity or by the elimination of certain foods, in an attempt to relieve what the patient terms "indigestion" or "stomach trouble". Occult blood may be found in the stools, particularly if they are routinely examined over a period of days. Hyperacidity is characteristic of gastric and duodenal ulcer, so that the Ewald test meal is a valuable diagnostic aid. Fractional extraction is, I believe, more accurate than the one-time extraction, and is accordingly to be preferred. Under the fluoroscope, the stomach may be seen to empty rapidly because of active peristalsis, or there may be retention if the ulcer is situated near the pylorus. This obstruction may be due to spastic contraction of the pylorus, to edema, to scar tissue formation, or to perigastric adhesions in the case of an old perforation. In spastic contracture and in edema, a marked improvement may be noted after only a few days treatment. The typical "punched out" ulcer and the deformed duodenal cap are char-



FIGURE 3. Gastric ulcer—the typical niche or crater situated in the lesser curvature.

acteristic, but their absence does not rule out the possibility of ulcer. In several robust men who have been under my care, there was a typical ulcer history—hunger pain relieved by food or alkali, tenderness on pressure over the pyloric region, one or more severe hemorrhages revealed by hemoptysis and melena, with rapid improvement on ulcer management—yet repeated x-ray examinations failed to reveal any lesion. Severe hemorrhages also occur in early cirrhosis of the liver, and in the splenic anemias, but since pain is not characteristic of either disease, they are here noted only incidentally.

In disease of the gall-bladder, pain may have the same character and the same localization as in peptic ulcer. There may also be some relation between food intake and the onset of pain, but the relationship is less definite and characteristic than in ulcer. Another type of pain is of greater diagnostic value when present—the so-called gall-stone colic. My old mentor, Dr. Sippey, used to say that when a patient gave a history of recurrent attacks of upper abdominal pain, radiating to the right shoulder blade and not to the groin, so severe as to require the use of opiates, he felt justified in making a diagnosis of gall-stones. Rarely a perforating ulcer gives rise to a similar clinical picture. However, contrary to a rather general belief, radiation to the right shoulder is not the rule in, nor is it pathognomonic of, gall-bladder disease. It is met with in disease of the

pancreas, the stomach, the lungs, and in some acute pelvic conditions, for instance, in rupture of an ectopic pregnancy, while in diseases of the gall-bladder it is commonly absent unless a stone has lodged in the common duct, or at least has passed some distance into the cystic duct.

Muscular rigidity and tenderness to pressure below the right costal arch, some two inches from the midline, is usual, and sometimes a mass is palpated here. Jaundice may later develop if a stone becomes lodged in the common duct, or if there is inflammatory occlusion of the biliary ducts. Bile-tinged urine and clay-colored stools are noted at an earlier period than jaundice, and are often present when a marked jaundice is not found. Until a few years ago, there was rarely any x-ray evidence for or against gall-stones, and none at all in the case of cholecystitis, for gall-stones are only rarely impermeable to the x-ray, and there was no known method of visualizing the gall-bladder. When such a method was first worked out, toxic results were not infrequent so that we hesitated to employ the technic in routine cases. The method has been greatly improved, however, so that we have no hesitancy in making use of it whenever differential diagnosis is not possible without it. The results are fairly satisfactory when studied in conjunction with other evidence, but are not one hundred per cent accurate. The normal gall-bladder can be outlined in most cases, and we may form a very fair estimate of its func-



FIGURE 4. Duodenal ulcer. The deformity of the duodenal cap is characteristic while the exaggerated peristaltic wave is evidence of obstruction.

tions. The gall-bladder containing stones can be visualized in many cases; if it is no longer functioning as in some cases of cholelithiasis and empyema of the gall-bladder, the dye will obviously not reach the gall-bladder, and here it is only the absence of the customary shadows that is of diagnostic import. In short, cholecystography is an interesting and a valuable aid in the diagnosis of gall-bladder lesions, but it is not infallible and is always to be considered in conjunction with subjective and other objective evidence.

There is unfortunately no pathognomonic sign of early malignant disease of the liver, gall-bladder, and biliary ducts. The pain and accompanying symptoms are to be distinguished in no way from those due to other diseases of the same structures save by the steady, though often slow, aggravation of the symptoms. This is also sometimes noted in the case of impacted stone, but here there are apt to be periods of exacerbation and of amelioration, particularly noted in the varying intensity of jaundice, which in malignancy grows steadily deeper. A simple method is often of value in differentiating benign from malignant biliary obstruction. The patient is given a certain measured amount of water each hour, and is instructed to empty the bladder at one or two hour intervals. Each specimen is placed in a clear glass container of uniform size, and after twenty-four or forty-eight hours, these



FIGURE 5. Normal gall bladder. It is not alone the size and shape of the gall-bladder that suggests the absence of pathology, but rather its ability to function normally as evidenced by its ability to empty in a given time after a fat meal.



FIGURE 6. Diseased gall-bladder. Conversely, the failure of the gall-bladder to empty normally suggests pathological changes.

specimens are compared in a good light. Variations in the intensity of the bile-staining speak for a benign obstruction, uniformity for a malignant one.

Carcinoma of the pancreas, chronic pancreatitis, and pancreatic calculi may all give rise to epigastric pain which, with the present diagnostic methods at our command, cannot be certainly differentiated from diseases of the gall-bladder and bile ducts, except by exploratory laparotomy. This difficulty is in part due to the fact that in most cases of pancreatic disease there is associated pathology in the gall-bladder and bile ducts. In chronic pancreatitis, the pain is perhaps more persistent and less severe—a nagging pain, which with the associated digestive disturbances, robs the sufferer of the satisfaction of being really well, and of the solace, such as it is, of being an invalid. The attempts that have been made to develop a technic that would give us a basis for a laboratory diagnosis of pancreatic disease have so far been unsuccessful, but the scientist must be an optimist, and look forward to further developments in this field.

In the case of a chronic perforation of a gastric or duodenal ulcer, or of the gall-bladder, differential diagnosis becomes a most difficult problem. The formation of adhesions, often involving the omentum, transverse colon, stomach, and gall-bladder, distorts the pain picture as well as that on the fluoroscopic screen. The diagnosis



FIGURE 7. Differentiation of gall-stones from renal calculi is best made by injection of the kidney pelves with sodium bromide; ureteral catheters in situ.

must be based upon the history elicited, and the symptoms of the underlying lesion. If there is a characteristic history of ulcer, let us say, and then a particularly stormy period is followed by a persistent dull pain unrelieved by food or alkalies, if there is a region of epigastric rigidity, and the stomach appears distorted rather than encroached upon when viewed in various positions under the fluoroscope, a tentative diagnosis of chronic perforation may be made.

The colon is more frequently responsible for pain in the epigastrium than is commonly recognized. In cathartic colitis, the patients often, even usually, complain of a constant pain, dull and aching, or burning in character, below the xyphoid. A history of a cathartic habit, tenderness along the course of the colon, and a marked spasticity of the colon when studied under the fluoroscope, together with a negative study of the stomach, duodenum and appendix, make clear the diagnosis. When carcinoma of the cecum or the transverse colon develops, the early history is often suggestive of a colitis, though the pain may be more periodic in character, aggravated by the onset of peristalsis during the process of digestion, and there have often been alternating attacks of constipation and diarrhea. Here fluoroscopic study is our best safeguard. If repeated examinations of the stools show occult bleeding, this is additional evidence, but bleeding from hemorrhoids must be excluded, and the

possibility of oozing from a chronically inflamed colon must be borne in mind.

The pain in epigastric hernia is chameleon-like—it may suggest any of the lesions we have considered, or one of a score of others. We can only remember that an epigastric hernia may be silent, and the symptoms due to the presence of some intra-abdominal lesion, or that the symptoms most suggestive of a visceral lesion may after all be due to epigastric hernia. In the latter, the symptoms are often precipitated by some physical exertion, particularly when it involves straining or stretching, as in lifting some heavy weight, or reaching for something above the head. In the presence of such a hernia, I would not feel safe in making a diagnosis of ulcer, however characteristic the ulcer syndrome, unless it were possible definitely to visualize the ulcer with the x-ray.

In addition to these lesions of the epigastric viscera, there are many others which may give rise to epigastric pain, and some of these must be granted at least passing notice for, since the solar plexus with its somatic peripheral distribution is located in the epigastrium, pain in this region may result from a lesion of almost any intra-abdominal structure. Thus, in tuberculosis, the patient often comes in for examination complaining of epigastric pain, and vague symptoms of indigestion, even of vomiting. The absence of



FIGURE 8. Carcinoma of the hepatic flexure. The barium enema fills the colon to the point of obstruction. Administration of barium by mouth would further clarify the picture but is not advisable where surgery is contemplated.

any demonstrable epigastric lesion, and examination of the chest is sufficient to clear the diagnosis in a majority of cases. In tuberculosis of the bowel, less frequently in tuberculous peritonitis, epigastric pain and the usual indefinite complaint of "stomach trouble" including vomiting, are sometimes met with. Here again, careful physical examination, supplemented by x-ray study, will avoid error. In appendicitis, the pain is often localized in the epigastrium, and with the accompanying nausea may give rise to suspicion of a gastric lesion. Epigastric pain may be the dominant symptom in cases of lead poisoning. A careful checkup of the patient's activities, examination of the gums for the blue line, and, finally, a study of the erythrocytes for stippling, should make diagnosis possible. The presence of an old laparotomy scar suggests the need of particular care to rule out adhesions as a cause of epigastric pain, a pain which may be very similar in character to that from a gall-bladder lesion, or even of carcinoma of the stomach. It is usually dull and may persist for days. The same type of pain may also be noted in the case of a small strangulated ventral, umbilical, or femoral hernia. Visceroptosis is also a common cause of persistent epigastric pain, dull and deep-seated, and since the visceroptotic is prone to develop this pain when he is below par for any reason, the examining physician may overlook the real cause of the pain in his search for some definite organic lesion. The over-zealous surgeon has too often removed an innocuous appendix or gall-bladder, even performed a gastro-enterostomy for a visceroptotic whose post-operative state was far worse than his original one. Any lesion of the right kidney may give rise to epigastric pain not of the typical renal type; thus epigastric pain is not uncommon in posited kidney, hydro-nephrosis, and pyonephrosis. Examination of the urine, always a routine procedure, and a cystoscopic examination if necessary, should clear the diagnosis. Tabes dorsalis is still another suspect condition. Here the pain is knife-like or boring, and the patient finds it difficult to localize. It may occur at any time, and is sometimes associated with pain in other parts of the body. While the blood Wassermann is not always positive, that of the spinal fluid is almost invariably so. Paroxysmal attacks of epigastric pain, in the absence of any demonstrable lesion, should suggest the possibility of a migraine equivalent. These patients are usually women, and a family history of migraine is the rule.

In our own section of the country, where malaria has become almost an alien, and there are relatively few endemic diseases producing an en-

largement of the spleen, splenitis or peri-splenitis, we have almost ceased to consider the spleen as a diagnostic possibility. There is unfortunately no pain to herald the onset of splenic anemia. There may be pain when the spleen has become very large, but there are then more typical signs. The same is true of malignant disease. Aneurysm of the splenic artery, or aneurysm of other vessels in this area, is very rare, but is associated with pain which is usually intense, often radiating. Yet another anomalous clinical picture is that presented by diaphragmatic hernia. Pain and varying degrees of gastric disturbance are the rule, but have no definite, significant character so that differential diagnosis was rare before the days of the x-ray.

There is one simple and infallible method of diagnosing abdominal lesions. That is the aseptic scalpel in the hands of the eager surgeon, but who is willing to submit his patients to a method of diagnosis which so often spells therapeutic disaster?

The use of the aseptic scalpel as a diagnostic measure becomes an aggravated offense when the surgeon feels it necessary to vindicate its employment by the removal of some organ not essential to life.

Diagnosis should be made before operation when this is humanly possible, and to this end we should employ all the useful laboratory methods, all the practical equipment that medical evolution has placed within our hands.

Let us not forget, however, that the chief diagnostic aid, today even as in the days of Hippocrates, is the seeing eye, the listening ear, the trained hand, equipment which each of us, whether at the country bedside or in the hospital ward, must carry with him.

THE RELATION OF OPHTHALMOSCOPY TO GENERAL MEDICINE*

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The healing of the sick used to be the foremost object of the practice of medicine and even to this day it engages the attention of most physicians during the majority of their occupied hours. There is, however, a broader field of endeavor the results of which will not be evidenced for many years, the prevention of disease. Ophthalmoscopy aids in the earlier diagnosis of certain well-known clinical entities, by its application

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hereditary tendencies are observed, constitutional and focal infections visualized and changes in remote parts of the body correctly interpreted. The study of circulating blood, of a cranial nerve end, and the sensation transmitting retina with its vascular base, the choroid, becomes one of enthralling interest just as soon as the examiner appreciates the unique value of ophthalmoscopy.

To stimulate your interest, to arouse your enthusiasm and to help in the diagnosis of some lesions manifesting eye ground alterations is our mission tonight. From a very large collection of photographs, we have selected a few to illustrate the value of routine fundus examination to every practitioner of medicine. The appeal to all—patients and physicians as well, is made when cardio-vascular-renal diseases are under consideration.

If the central artery of the retina is suddenly occluded by an embolus or thrombus the vision is lost. The retinal edema is great, the obscuration of details extreme, when total sight is almost invariably permanently destroyed. Occasionally, by the marvelous protecting anticipation of nature, an accessory blood supply preserves the central field. At other times there is a subtotal occlusion with only an isolated defect. Thrombosis of the central retinal vein is another striking picture. The retinal layers are blood-soaked, the veins are immensely distended, the arteries white and stiff, and the nerve head swollen with obscured border. A partial thrombosis leads to the seepage of blood into the retina with exudate.

We consider the location of blood in the fundus where we find extravasations, superficial, flame-shaped, in the anterior retinal layers, circular in the deeper retina, rounded sub-retinal and globular or ovoid preretinal masses. The last have a tendency to gravitate on change in the position of the eyeball; therefore any blood collection in the fundus with a straight upper edge must lie between retina and vitreous. Rarely the hemorrhage breaks through the limiting vitreous membrane and bulges into the posterior space. The careful analysis of each blood clot will repay the observer for this alarming physical change causes acute mental anguish to the victim and a thorough understanding of its potentialities will sometimes allay the patient's apprehension.

Having localized the blood mass, we search for its cause, not by aimless, expensive, time consuming laboratory tests but by a real deep clinical knowledge derived from an intimate acquaintance with literature, the correlation of clin-

ical facts and a just evaluation of the sufferer's economy.

Blood may present in the fundus as a result of trauma, a penetrating wound or a contusion; from toxic agents, including alcohol and lead, blood disease like leucemia, tuberculosis, follow luetic invasion, cardiac lesion, nephritis, diabetes, nephrosis, hyperpiesis, arterio-sclerosis and increased pressure such as intraocular hypertension, glaucoma or intracranial excess from brain edema or growth. Every case of retinal extravasation calls for an intensive study and critical analysis. The examples cited may assist in the formation of routine investigations.

Next to the distinguishing feature of these red infiltrations is exudate in retina, choroid or optic nerve but properly, before the consideration of disease, we must be certain that our anatomic foundation is secure and that we are sufficiently familiar with the congenital variants to distinguish between disease and anomalies. It will serve as an exhilarating purpose to review a few confusion pictures.

A retained nerve sheath may misguide the examiner and particularly if the white fibers lie remote from the disc. The differentiation is not difficult but the aggregate of medical facts is so stupendous that an occasional inventory is mandatory. More infrequently we find congenital absence of a part of the fundus as in coloboma. The recollection of this group is sufficient to keep one on guard but we must particularly note the colloid changes in the fundus. The individual deposit is always beneath the retinal vessels and is never inflammatory.

Retinal exudate may be evident as sharp, hard grains of yellowish color as in diabetes; soft, fluffy spots as in malignant hypertension, great snowbanks of nephritis, the more isolated areas about a break in a blood-vessel, or massive collections in renal glycosuria. Choroidal exudate with a less circumscribed defined border may be in an isolated region as in a large tubercle; multiple as in miliary tubercles or the diffuse form of syphilis and focal infections. The diagnostic value to be placed on exudate depends then upon the site, the number of areas and the comitant symptoms.

We have so far discussed some of the spectacular features of the fundus distinguished in life by contrasting colors but in photographs by light and dark areas of varying intensity.

The greatest value of a photograph lies in the true reproduction of vessel contour which is of inestimable value in the elucidation of blood-vessel wall changes, essential hypertension, malig-

nant hypertension and arteriosclerosis including extreme atheroma. These diseases exhibit characteristic alteration if we but recognize them.

The so-called arterio-sclerotic fundus may be typical but photographically, and that means clinically, we distinguish two great groups, one in which the arteries are tortuous and the other in which the arteries are unduly straight. Before we can discuss them, we must refer to physiological variations especially the tortuosities of health where we observe that the twisting of a vessel is not an indication of disease unless accompanied by lumen changes.

Two classes of pathological tortuosity present—one in which the major vessels show the more marked alterations such as pushing a contiguous vein aside, denting or compressing a vein where it is crossed by an artery or the elevation of a vein overlying an artery. The other class is the hairpin convolutions of the small branches about the macular region. Both types may be combined on the photographic plate. We can distinguish the increased reflex from the blood stream in the artery as well as the grosser outline deviations. The atheromas, white pipe-stems, similar to the stiffened radials, are depicted in localized vessels and in entire artery occlusions. When a vessel breaks exudate and hemorrhage supervene. There are two forms of retinal sclerosis, one without any arterial hypertension and the other with an excess of both systolic and diastolic force—ordinarily the two are not to be differentiated by fundus examination alone.

It is obvious from this that we must correlate the essential and malignant hypertension with arterio-sclerosis. We believe that all hypertension is eventually accomplished by artery wall changes. Perhaps in no single disease will photographs prove of greater interest than in the clearing of the misunderstanding now existing in the separation of hyperpiesis and nephritis. Until a very few years ago, the ophthalmologist used to see cases of retinal hemorrhage, exudate and disc edema—he would tell the attending physicians he suspected advanced nephritis but no evidence of kidney disfunction would be found. By pictures we have illustrated the fundus details and by conferences a rather well understood fundus syndrome of hypertension has been evolved. Confusion still exists but fortunately to a lesser degree and even now the information derived from the contact of internist and specialist is fast dispelling the clouds of doubt which have too often led to the dissatisfaction of the patient as well as the perplexity of consultants.

Some very extreme blood-vessel changes are compatible with long life and activity, where

other patients rapidly pass to the great unknown. The exact understanding of these classes is, therefore, of the utmost importance to the patient and it is here that a photographic record will eventually help in the clinical differentiation of these stages. When there is edema of nerve head and exudate, particularly radiations about the macula, the prognosis is so grave and the end of life so near that all measures should be taken to make the last days comfortable for a patient who may have been under observation for years or for one who may have had visual symptoms for only a short time, even a few weeks. The atheromatous type is not often accompanied by hemorrhages and the sick one usually visits the ophthalmologist for poor sight. The macular region is frequently degenerated but so far we have not seen the round hole like destructions in this form that are found in the hypertensives. As little has been written regarding this latter type, we stress the importance of minute examination of the macular area whenever the sight is reduced without sufficient physical change to fully account for the loss.

Nephritis induces changes showing as a severe retinitis in the terminal stages of which we sometimes have yellowish, deep retinal exudates radiating from the fovea especially toward the disc. Such pictures have been recognized for several years and the prognostic value understood—few survive many months.

The cardiac may have an embolism or may in his closing days lose his sight from an hemorrhagic neuro-retinitis, which always means that recovery is impossible and death will soon supervene.

It is impossible to cover the ophthalmoscopic peaks, so that the valleys of shadow are entirely neglected and in closing we wish to discuss the changes which as they take place in the optic nerve end assist the diagnostician to distinguish between a local and a general disease, aid him in separating the nerve inflammations from the alterations incident to intracranial pressure and by stereo photographs finally bring a clearer conception of a choked disc as contrasted with an optic neuritis.

With this large field we recall the numerous changes in the nerve outline, the shape, size and depth of the central excavation and especially the physiological variations in contour, the congenital anomalies, drusen and the hyperopic discs. A unilateral blurring of the disc margin with obscuration of the veins is with the exception of a purely local nerve tumor suggestive of lues, tuberculosis, hypertension and rarely an orbital abscess. A bilateral swelling without hemor-

rhage suggests malignant hypertension, nephritis, intracranial pressure and brain tumor.

We believe that by stereoscopic ophthalmoscopy and photography, it will be possible to separate the optic nerve inflammations from the edemas, crooked discs; that exudate in the nerve head can be distinguished; that the regressions and progressions of the disease accurately recorded and in the end a photographic history will prove to be the safest, easiest and most distinctive method of dividing non-inflammatory from inflammatory disc lesions.

The lecture was illustrated by more than one hundred fundus photographs which have since appeared in the author's atlas, "Photographs of the Fundus Oculi", F. A. Davis Co., 1929. Permission was granted by the publishers to use them on this occasion.

THE MINIMUM OF RENAL TISSUE COMPATIBLE WITH LIFE—MALIGNANT SCLEROSIS OF THE KIDNEY?*

FREDERICK W. MÜLSOW, M.D., Cedar Rapids

The purpose of this report is to indicate as far as possible the minimum of renal tissue compatible with active life, the little prognostic value of routine urine analysis and an idea of the frequency or rather the infrequency of the occurrence of extremely small kidneys.

The kidneys upon which this discussion is based were removed from a woman thirty-five years of age, at the postmortem examination. She had measles, pertussis, varicella, and scarlatina as a child. For the past ten years she has had frequency of urination. The tonsils were removed three years ago because of frequent colds and tonsillitis. She has had some swelling of the feet and ankles for the past two or three years. In May, 1927, she weighed 190 pounds and has gradually lost weight until about the first of October, 1927, she weighed 140 pounds. She has also had a loss of appetite and has gradually developed a shortness of breath. She had also become very anemic in appearance. When she entered the hospital there was some edema of the legs and considerable dyspnea.

The blood examination gave a hemoglobin of 30-40 per cent, the red corpuscles numbered about 2,000,000 and the white cells 8,600. The red cells were slightly irregular in size and shape, and apparently contained hemoglobin in reduced amounts. She appeared more anemic than the counts would indicate and the hemoglobin index being close to 1, was very suggestive of pernicious anemia.

The urine examinations on different occasions gave little evidence of the severe kidney condition. The specific gravity was from 1.008 to 1.010. Albumin was present in all tests as a slight trace to a heavy trace. There were occasional hyaline or no casts or red corpuscles in the sediment. The small amount of albumin and the absence of casts is not what is often expected in severe kidney conditions. It is well known, however, that in the late stages of chronic nephritis there is often very little or no albumin present in the urine, but there are in practically all cases moderate numbers of casts. The condition of the patient was such that twenty-four hour specimens were not obtained, but she seemed to be passing the normal amount of urine. It is quite evident that the prognosis and the condition of the kidneys in such cases can be determined much more accurately by chemical examinations of the blood.

In studying the physiology of different parts of the body it has been found that there is considerable reserve function for all organs. We know that we are endowed with at least twice the quantity of kidney tissue necessary for active vigorous life, but we do not know the minimum amount required for comfortable and active life.

Bradford¹ from experiments upon dogs states that "When three-fourths of the kidney substance was removed the dog died with emaciation and asthenia". In this patient there is nearly one-fourth the weight of what is usually considered the normal weight of adult kidneys, but it appears that one-half of this is scar tissue or at least non-functioning renal tissue. Yet she kept at her work until about two weeks before she died.

I have been able to find very little in the literature regarding the minimum amount of kidney tissue necessary to sustain life in man. Neither have I been able to find anything of a definite nature regarding the frequency of contracted kidneys which weighed less than 100 gms.

The Tice System of Medicine when asked for references and literature regarding such small kidneys, sent a report of three cases of atrophy of one kidney with hypertrophy of the other. Henry Morris² in his book "Diseases of the Kidney", reviews the literature and the findings in 11,978 postmortem examinations relating to the renal anomalies. He found that there had been described before 1898 but eight cases of rudimentary or atrophic kidney of one side with hypertrophy of the opposite kidney in every case. In regard to contracted or sclerotic kidneys he gives only general statements. He says "rarely

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as a result of wasting from Bright's disease the two kidneys of an adult will together weigh less than two ounces and often less than three ounces". Many such indefinite statements are found in the literature regarding this subject. The following statements have been found more than once: "The kidneys are very small", "The kidney is the size of a walnut", "The size of a chestnut", "Weighed only a few grams". "It is one-third the normal size".

Dorland³ reports one case and states that there had been described in the literature up to 1911, twenty cases of the occurrence of a rudimentary kidney on one side and in all except one case the opposite kidney was enlarged. From the gross appearance of the right kidney in my own case, it was at first thought that there was another case of a rudimentary or atrophic kidney without the hypertrophy of the opposite kidney. But the microscopic sections of the two kidneys look very much alike. It appears therefore to be a case of severe nephritis in which the right kidney was affected more than the left.

Osler⁴ states that invariably both kidneys are affected but cases have been reported of unilateral chronic nephritis. He further says that in extreme cases both kidneys together may not weigh 100 gms.

Upon looking through the postmortem records at the State University Hospital, Iowa City, Iowa, for the past ten years, I was able to find only one case in which the two kidneys of an adult man together weighed less than 100 gms. In this case the kidneys each weighed 40 gms.

Smith⁵ reports a case of chronic glomerular nephritis of a boy twenty years old, in which each kidney weighed 15 gms. He believes that this young man was apparently kept alive for six months by a low protein diet, which consisted of 15 to 20 gms. of protein daily. Frequent attacks of tonsillitis was given as the most probable etiologic factor of the nephritis.

The kidneys which I have here, show a marked reduction in size. The anatomic diagnosis of the case from which the kidneys were taken was as follows: Chronic nephritis, hypertrophy of the myocardium, fibrinous pericarditis, and pleural adhesions. The right kidney weighs 15 gms. and the left 48 gms. The right kidney is 5.5 cm. long by 4 cm. wide by 2 cm. thick. The left measures 8 cm. by 4.5 cm. by 3.2 cm. The right kidney was embedded in fat and was not recognized at first as kidney. The capsule is rather adherent and leaves a brownish granular surface. The cortex is narrow and in many places cannot be recognized. The vessels on the cut surface

are thick walled and stand open. There is considerable fatty infiltration around the calyces and into the pelvis of the kidney.

Microscopically all the arteries and arterioles have thickened walls and are sclerosed. The glomeruli vary in appearance. Very few are normal and many are completely replaced by fibrous tissue. The tubules are obliterated and replaced by scar tissue in many places. In a few places the tubules are dilated and there is a thickening and hyperplasia of the epithelium. Microscopic sections of the two kidneys look very much alike, except that there is much more destruction of normal tissues in the smaller kidney.

This appears therefore to be a case of severe nephritis, with extremely small kidneys, and a case in which one kidney was affected more than the other. Some years ago this would have been called chronic interstitial nephritis without any question, but the present tendency among pathologists as well clinicians is not to consider the interstitial tissue in classifying diseases of the kidney. The classification of renal diseases suggested by Volhard and Fahr is perhaps as practical and as widely accepted as any other. They recognize the following types:

1. Degenerative disease—nephrosis, in which the etiology is usually known.

2. Inflammatory disease—nephritis, which may be localized or diffuse, and affect any structure, but is most frequently called glomerulonephritis.

3. Arteriosclerotic disease—sclerosis, which may be either (a) arteriosclerotic, which is a part of a general arteriosclerosis, or (b) a combination form, or malignant sclerosis, which is a sclerosis plus a nephritis.

Cases of this latter class occur in younger individuals. It occurs most frequently between thirty and fifty years of age. The course is rapid for chronic nephritis and lasts only a few years. The kidneys are contracted to an extreme degree. There is a severe anemia, which is often suggestive of a primary anemia. There is usually hypertension and the cases frequently terminate with a pericarditis and uremia.

CONCLUSIONS

While the amount of renal tissue compatible with adult life is unknown, it appears that it must be less than one-fourth the normal amount in some cases.

The occurrence of kidneys in adult man which together weigh as little as 63 gms., and in which one kidney is affected more than the other is apparently very rare.

It is hoped that this discussion may stimulate an interest in this subject, and that more may be learned concerning the frequency of such cases.

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Discussion

Dr. Friedrich A. Hecker, Ottumwa—At a recent meeting of the Congress of Medicine held in Washington, one afternoon was set aside for a discussion of nephritis. Ritter of New York presented a paper in which he discussed the question of malignant sclerosis. The x-rays he exhibited showed marked sclerosis of the arteries outside of the glomerulus. The arteries and capillaries of the glomerulus were replaced by fibrous tissue. Davis of Ann Arbor presented a series of 160 cases of nephritis in people varying from 28 to 60, and in whom the kidney function varied from 20 to 60 per cent. Dr. Bell of Minneapolis read a paper in which was discussed the question of malignant sclerosis. The pathological picture as set forth there showed the glomerulus very badly damaged; that is, the nuclei of the cells composing the glomerulus were without any definite arrangement at all, corresponding quite closely to the condition we used to call parenchymatous nephritis. Next, he considered the question of contraction of the tubules, and in addition showed that some of the tubules contained casts. The reticular epithelium of the kidney was practically destroyed by the fibrosis that was replacing the glomerulus, while the glomerulus itself was covered by a somewhat dense fibrous capsule. Portions of these papers elicited a great deal of discussion, and after all was said and done one man who had not been in the game very long finally arose and said, "Gentlemen, I do not think we know anything about nephritis even though we do know something of malignant sclerosis".

THE EPOCHAL IMPORTANCE OF "DE MOTU CORDIS"*

ARTHUR D. WOODS, M.D., State Center

The present year marks the tercentenary of Harvey's discovery of the circulation of the blood. Strictly speaking this statement is incorrect inasmuch as the real work of the discovery antedated the publication of the book by several years. In 1628 William Harvey gave to the world his immortal work entitled, *An Anatomical Disquisition on the Motion of the Heart and*

Blood in Animals. Like all scientific works of the times it was written in Latin and is commonly spoken of as "*De Motu Cordis*". This publication was an epochal event. It broke the thralldom that had gripped medicine for more than a thousand years. "*De Motu Cordis*" was the cornerstone around which has been builded the mighty edifice of modern medicine.

In the breathless haste of our twentieth century it may be well to pause occasionally and ask ourselves, whence came some of these marvelous things about us? So then, as we come now to the three hundredth anniversary of Harvey's great contribution to medicine let us turn back to the beginning of the seventeenth century and take a brief survey of medical heritage as it came down to the time of Harvey. Such a review will give us a better understanding of the great importance of the discovery of the circulation of the blood and to speak of it as epochal will seem in nowise an exaggeration.

The legends of Greece and Rome have an alluring fascination especially as we discern in them the first efforts to make practical use of so-called divine healing. The Greek legends particularly tell us of the cult of the son of Appolo, of Aesculapius, the God of Healing and were we to linger long in this maze of prehistoric medicine it would be interesting to learn how the temples of healing were filled with all the grandeur of Greek art; we would come to know something of their elaborate ritual of the cure; also, of how simple faith then, as now, was so important in the art of healing. But time forbids. Much of the essence of later medicine had its origin in this legendary period. There seems to be little doubt that prehistoric Greece was influenced by early Babylonian, Egyptian, and Chinese knowledge, but just how we do not know. The dawn of Greek and Hebrew knowledge occurred about the ninth century B.C. The earliest monuments of European literature, *The Iliad* and *the Odyssey*, tell us much of the life of the period but of medicine they yield us nothing definite.

In the fifth century B.C. a mighty change took place owing to the magical touch of an outstanding personality; Hippocrates, "The Father of Medicine". It has been said of Hippocrates that he was one of the greatest clinical physicians of all times: that "he dissociated medicine from superstition, systematized the empirical knowledge which had accumulated in Egypt and in the schools of Cnidos and Cos, and founded inductive and positive medicine". It is interesting to note also that certain theories and beliefs which made up a part of medical heritage for centuries are

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ascribed to Hippocrates. The theory of critical days, although it may have originated earlier in the time of Pythagoras, was one, the theory of the four humors, the other. The Hippocratic conception of man's composition was that of four elements, blood, mucus, yellow bile and black bile. The heat of the body came from the blood, the cold from the mucus, dryness from the yellow bile and moisture from the black bile. A state of health was one of harmony of these four elements, a state of disease one of improper mixture. Thus arose the humoral pathology of Hippocrates which clung to the world for hundreds of years, the last vestige fading away with the advent of the modern conception of pathology and bacteriology. However bizarre may seem some of these notions yet it was Hippocrates who first gave expression to theories which are sound today. It was he who first taught that epilepsy is a disease of the brain, not of the heart or diaphragm. Before this time epilepsy was thought to be of divine origin. Hippocrates first taught the theory of fracture by contrecoup. His descriptions of disease were admirable and his surgery in some respects was unsurpassed until the nineteenth century. Thus did Hippocrates contribute much truth and some error to medical heritage of later centuries.

But of Aristotle, who came on the scene nearly a century and a half later, not so much can be said. As regards the circulation Aristotle taught less truth and more error. On this point Dr. George Sarton in his *Introduction to the History of Science* says: "In spite of earlier Hippocratic views, he (Aristotle) considered the heart as the seat of intelligence, the function of the brain being then simply to cool the heart by the secretion of phlegm and prevent its overheating. He realized that the arterial system duplicates the venous system, but failed to understand the real difference between arteries and veins; he believed that arteries contain air as well as blood. Here Aristotle's views again were the main cause of the extraordinary tardiness of the discovery of the circulation of the blood (Harvey 1628).

No summary of Hellenistic medicine is complete without mention of the two great anatomists, Herophilus and Erasistratus. Herophilus flourished in Alexandria under the first Ptolemy and was without doubt the greatest anatomist of antiquity. His anatomical observations were very numerous and the priority of much of his teachings remains uncontested. He named the duodenum, gave a detailed description of the brain including the famous "torcular Herophili", and brought out the sharp distinction between ar-

teries and veins, insisting that the arteries contain blood, not air, and are empty after death. Of Erasistratus it may be briefly said that he was a younger contemporary of Herophilus and that he improved on the latter's description of the brain. However, he held to the conviction that arteries contain air and had it not been for this fallacy he might have discovered the circulation of the blood for he believed the arteries and veins were connected by some form of ultimate ramifications.

Thus briefly we have seen something of the state of medicine before the advent of the Christian era. We have seen how Hippocrates gave great impetus to clinical medicine although much of it rested on the fallacy of the doctrine of humoral pathology. We know that the prestige of Aristotle was to endure for centuries and whatever he taught in so far as the circulation was concerned was gross error. Herophilus and Erasistratus made great anatomical advances but neither touched on the crucial point that the movement of the heart and blood-vessels is the essential factor in the circulation of the blood. These anatomists of antiquity, both of the Alexandrian school, made however one contribution to medical heritage of priceless value, the study of anatomy by dissections. From this time on until the coming of the great Vesalius, a period of nearly thirteen centuries, anatomy languished.

In the galaxy of ancients there is no brighter star than that of Galen. The brilliancy of his intellect illumined the second half of the second century A.D. His influence was really phenomenal and the prestige of his name and the authority of his teachings endured until the Renaissance. Born in Pergamus in the year 130 A.D., this great reformer towered above all his contemporaries. As an experimental clinician, an innovator and a reformer Galen had no equal. His contributions to anatomy and physiology were extensive. It was Galen who first used our present word "anastomosis". As illustrative of this note the following quotation from one of his works:

"The arteries and veins anastomose with each other throughout the whole body, and exchange with each other blood and spirits by certain invisible and exceedingly minute passages". Of particular interest to us as we come now to the tercentenary of Harvey's discovery is the fact that Galen himself barely missed discovering the circulation of the blood. Galen was right in his conception of the anastomosis of arteries and veins and in many theories relative to the circulation but he too overlooked the essential factor in

the circulation, the movement of the blood in a circle propelled by the muscular action of the heart and blood-vessels.

In concluding this brief survey of the development of ancient medicine I can do no better than quote from Sir William Osler:

"Greek medicine had now reached its climax and with Galen the first great chapter in scientific medicine closes. It is one of the most remarkable and in a way inexplicable feature in history, that having made a beginning of such brilliancy, the scientific study of disease should have made little or no progress for the next fourteen or fifteen centuries. Into the causes of this sterility this is not the place to inquire. During the long period three great names ruled all minds, Ptolemy, Aristotle and Galen, and men were content to accept the geographic system of the one, the natural history and philosophy of the other, while the infallibility of the great Pergamite became the first article of belief among all practitioners of medicine."

And now came the long night of the Dark Ages. From Galen to Vesalius was a span of nearly thirteen centuries. And then that wonderful sixteenth century. We speak of it as the Renaissance. As one writer says, "That was the springtime of our world. Great names crowd the text—Luther, Michelangelo, Raphael, Titian, Copernicus, Columbus, to go no farther. Men were breaking away from tradition, the dark veil of the middle ages had been rent".

In the midst of these stirring times Andreas Vesalius went down to Paris to learn anatomy of Sylvius—the Sylvius of fissure fame. Now it would seem that Sylvius had not broken with tradition for the story goes that he taught anatomy by reading from Galen while one of his assistants, usually a crude barber, would occasionally point out some structure on the cadaver. One day Vesalius, thoroughly disgusted by the whole performance, pushed the assistants aside and gave a demonstration to his own liking. This anecdote illustrates the character of Vesalius and the times in which he lived. Upheaval and the breaking away from tradition were dominant.

In 1537 Vesalius was made doctor of medicine at Padua and soon afterward was given the chair of surgery and anatomy. Six years later, at the age of twenty-eight, he published his famous book, *Fabrica Humani Corporis*. And as one writer has said, "Promptly the heavens were opened, and the wrath of entrenched conservatism descended upon him. * * * * His old master, Sylvius, and others thundered against him for daring to point out that Galen was wrong."

Briefly, then, we now have before us an inkling of the medical heritage that came down to the time of Harvey's birth in 1578. When his preliminary education at Canterbury and Cambridge was finished Harvey entered the University of Padua from which he received his diploma as doctor of physic in 1602. Vesalius had long passed from the scene but one of his pupils held the chair of anatomy and no doubt much of the master's virility pervaded the institution. Returning to England Harvey received his doctors degree from the University of Cambridge. The following ten or eleven years he was actively engaged in routine practice during which time he also gained important connections with St. Bartholomew's Hospital. He also became physician to many distinguished men of the day.

On August 4, 1615, Harvey was chosen to deliver the lectures on anatomy and surgery at the College of Physicians. This lectureship was founded by Lord Lumley and Dr. Caldwell and was spoken of as the office of Lumleian Lecturer. The following April Wm. Harvey gave his first anatomical lecture and for twelve years thereafter he demonstrated the circulation of the blood before numerous audiences. These lectures were published in book form in 1628. By this time Harvey was fifty years of age. He had been delivering lectures on the circulation for many years. A long period of meditation and study by means of dissections and vivisections and a mastery of ancient literature on the subject must have antedated the first lecture. Thus Harvey's great creative work was done prior to the age of forty. Then why the long delay in the publication of "*De Motu Cordis*"? The answer is fear, fear of the prevailing, deeply rooted, inexorable belief in an ancient authority, principally Galen. Those who would know more of this attitude, this reluctance of Harvey's to publish his theories of the circulation, may well turn to the beautiful dedication of the book. These few paragraphs show how loath he was to make himself the target for all the abuse and ridicule that he felt would surely come. No doubt Harvey knew of the wrath that descended upon Vesalius after the publication of the *Fabrica*. But his twelve years of waiting and the frankness and fairmindedness expressed in the dedication did not save him. Willis in his admirable work on the life of Harvey tells us that following the publication of "*De Motu Cordis*" that "grievous to relate, the appearance of the *Exercices on the Heart and Blood* gave a decided check to his professional prosperity". It seems that in connection with this experience Harvey himself told one

of his contemporaries, John Aubrey, "That after his book on the 'Circulation of the Blood' came out he fell mightily in his practice; 'twas thought by the vulgar that he was crack brained, and all the physicians were against him." Many years later when Harvey's reputation as an anatomist was well established but his practice less Aubrey tells us further, "though all his profession would allow him to be an excellent anatomist, I never heard one that admired his therapeutique way. I knew several practitioners in his town that would not have given a threepence for one of his bills (prescriptions) and who said that a man could hardly tell by his bills what he aimed at." All this however, should occasion no surprise when we remember that the medical thought of the times was still ruled by antiquity. Imagine the weight of an authority which could endure and reign supreme at the end of fifteen hundred years. Contrast the medical heritage of Harvey's time, a heritage filled with the teachings and dogmatic assertions of Galen with our heritage today. Our present day acceptance of the new in medicine has become almost commonplace, so marvelous have been the changes in less than a century. When Harvey was born the heart was still accepted as the seat of the soul, the arteries contained air and spirits, and the pulse depended upon the respiration. And to doubt the authority of Galen was almost a sacrilege.

If anyone wishes to verify these statements let him turn to the introductory chapter of "De Motu Cordis". In this portion of the work Harvey devotes much thought to a refutation of ancient doctrines. He quotes from Galen repeatedly. The whole tenor of the introductory chapter is plainly an effort to throw off the shackles of the past and accept the open facts of nature. Herein lay Harvey's greatness, that exhibition of rare courage to combat an ancient, powerful authority but preserving meanwhile a clear vision and sweet temper for the work in hand. "De Motu Cordis", it would seem therefore, is one of the greatest books in the annals of medicine. William Harvey's discovery of the circulation of the blood was epochal in two respects, first, it opened the flood gates of a living, pulsating, dynamic physiology, and second, it broke the thrall-dom that had bound medicine for centuries.

Discussion

Dr. Frank M. Fuller, Keokuk—I feel that Dr. Woods has conferred a great favor upon this organization in presenting a paper of this type on a subject of this character. The paper itself it is unnecessary for me to commend, in its organization and diction or as to the manner in which it has been

read. We are quite prone to pride ourselves upon the fact that we are practicing modern medicine, and we feel that in some way we are superior to those who have gone before. We must realize that the men who have done the work back behind that period in the spring-time of civilization, even behind the dark ages, were living and working with a definiteness of purpose; we appreciate the fact that their trend was towards that which, according to the viewpoint of the time, was believed to be scientific thought, recognized as the science of the day, and every generation from the time of the birth of medicine down to the present time has practiced what was to them modern medicine. So when we think back to the times of Vesalius and Sylvius and Galen and Hippocrates and all that long line of men whom medicine delights to honor, we must never forget that they have laid stone upon stone, have builded as the coral builds, a little at a time, until the great structure of scientific and recognized medicine has arisen and stands as it does today. And yet we all visualize the time when our successors shall look back to us and wonder how we were able to struggle on with so little knowledge as we have today. Therefore in presenting this paper regarding the epochal importance of "De Motu Cordis", Dr. Woods' idea is to impress upon us the fact that through many, many years—yes, centuries of time—men were living and working according to the teachings of that powerful group of men represented by Hippocrates particularly, and Galen. And Galen lives today in our medical history, wherein he wanted to impress upon future generations that those men who were living back in that time had not the force and strength or individuality to lift themselves out from those things that were generally believed. This situation prevailed until Harvey, 300 years ago, had the courage, the intelligence and the persistence to bring forth something that was absolutely new. History does repeat itself, and today there are many men who are growing along the line of the study of pathology, of physiology, of bacteriology and of the interrelations of the endocrine system. There are men today who are going to step out from the beaten path of the profession and receive the same criticism that Harvey received, and yet they will produce an epochal advance similar to that brought forth by Harvey. Remember our old friend down in the mountains of Kentucky, a mob around his house making threats against his life because he had possessed the temerity and the skill and the foresight to open the abdomen of a woman and take out a tumor. Epochal? Look at Banting, who has accomplished what he has with his discovery of insulin, in solving some of the problems connected with one of our most devastating diseases. We must therefore hold our minds open. As we grow older we are inclined to become confident of those things we ourselves have known, to believe in those things that in our experience and study have been proven beyond all question, but it is necessary for us to realize the fact that just as

Harvey and some of the later men even in our own recent memory have developed epochal steps in medicine, in future others will do the same thing along new paths. Some one has said that "Ignorance consists not so much in not knowing, but in knowing so many things that are not true." In Keokuk we have a Shakespeare Club, and in connection with the study of one play (*Coriolanus*, act I, scene 1, lines 130-143) I wisely announced the discovery I had made that Shakespeare gave a definite description of the circulation of the blood in a play written about 1616, calling attention to the fact that he had published this twelve years before Harvey gave it to the world. The essayist has cleared up my mind in showing how long Harvey had been engaged in the preparation of this work, in the mean time imparting to his friends a knowledge of it, and Shakespeare probably had seized upon this thing, not yet known to the world, and incorporated in one of his plays this reference to the circulation of the blood. It has been shown that in the fifth century B.C. a very definite description of the circulation of the blood was given in Chinese literature. I desire again to congratulate Dr. Woods upon this excellent presentation. It is well at times to pause in our deliberations, and instead of so much drink at table on these occasions it would be a very good thing to serve in addition a scientific salad or perhaps dessert. In this well balanced program Dr. Woods has given us a pause, a time in which to stop and think not of that great rushing force and power of oncoming medicine, but rather that what is behind us is the structure upon which we are standing today, the foundation upon which modern medicine is built.

Dr. Walter L. Bierring, Des Moines—I would like to express my commendation of this pleasing presentation. The orderly development of the historical sense is one of the important essentials in research and in following out accurate observations in any field. It seems surprising that the circulation of the blood remained so long undiscovered in the light of the fact that Galen and his pupils had noted the venous flow and were almost at the point of discovering the actual circulation. It remained for Harvey, with a background of many years of preparation and knowledge of pre-existing work on the subject, supplemented by critical interpretation of vivisections and other form of experiment, to be the discoverer. Even then he waited fourteen years before publishing the results of his monumental labors in 1628 under the title "An anatomical disquisition on the motion of the heart and blood-vessels". The crux of his argument was that he demonstrated the continuous movement of the blood through the heart and vessels and showed that the blood could return only through the venous system. So he injected the idea of measurement into biologic experiment, and developed also the concept of dynamic physi-

ology, in that the heart was a force-pump of a continuous motion and circulation. It is well to remember that Harvey lived in an unusual period. It was distinctly the age of individual endeavor in the fields of literature, science and philosophy, to which belonged Milton, Shakespeare, Galileo, Newton, Bacon and Locke. Dr. William Gilbert, the discoverer of the magnet, was a co-member in the Royal College of Physicians of London. Among the treasures of the College of Physicians in London is the silver tipped pointer and the chart of the circulation used by Harvey in his first demonstration before the College in 1628. It is interesting to note that the College of Physicians of Philadelphia has probably the largest collection of Harveyana in existence, including thirty-two copies of the early editions pertaining to the discovery of the circulation. Tercentenary celebrations of Harvey's discovery are being held this year throughout the world and it seems very fitting that this paper should appear in the Iowa State Society program. Aside from its historical interest, it carries us back into the yesterdays of science that we may better appreciate the legacy of the early masters and their influence on the research spirit and the evolution of modern medicine.

Dr. Henry S. Houghton, Dean of Medical School, Iowa State University, Iowa City—In regard to knowledge of the circulation of the blood being current among the early Chinese, it may be of interest to say a word on that point. The Chinese system of medicine, which was altogether empirical, runs back traditionally to the twenty-seventh century, B.C., and the Chinese classics in medicine are dated from that time, although that is not a historical dating; the first known records were made at various times from the fifth to the second century B.C. It was true also of the early people of Egypt, that the circulation of the blood was known to them. In the great Chinese classic on the subject very definite reference is made to the circulation of the blood, and "constant movement of the circulation" is one of the phrases used in that work—that it "flows constantly", and an estimate is made of the time required for a given amount of blood to make the circuit. It seems to me that the most interesting point having a bearing on Harvey's work is not that the general dynamic principle was not known among early people, but that the door that was later opened to creative, experimental, and inductive work was not entered by any one of them; it remained for that great period in which Harvey lived to produce men who had the experimental sense, the acquisitive intellect, to pursue that question, develop it and prove it by a truly scientific method. That is the critical thing in which we of the West should all take pride—the experimental basis of our system of medicine.

SYMPTOMS AND TREATMENT OF
EXFOLIATIVE DERMATOSES*

JAMES C. KESSLER, M.D., Iowa City

We are bringing up for consideration the types of exfoliative dermatitis, which are classified as follows:

A primary and secondary types of exfoliative dermatitis.

The chief differences being in subjective symptoms, etiology and prognosis. So far as the objective symptoms are concerned, they are the same—excepting in intensity.

The primary type may be and frequently is preceded by fever, debility and gastrointestinal disturbances. These symptoms may also remain after the eruption makes its appearance.

The eruption usually makes its first appearance in the flexors of the elbows, knees and inguinal region, with closely crowded pink papules, which are pinhead in size. The spread is quite rapid, involving the whole integument of the body. The hair and nails are also frequently affected, becoming brittle, lusterless and may be shed. The palms and soles may be shed in plaque.

In the advanced case the skin is red, dry, harsh and scaly. The scales are thin grayish white in color and stand out from the skin, being attached by a small margin. A cup full or more of the scales may be swept up in the room at the end of a twenty-four hour period.

It is the consensus of opinion that the cause of the primary type is evidently toxic, because of symptoms present, fever, debility, gastrointestinal disturbance, chills and an erythematous dry skin.

Some have claimed an association with tuberculosis. Other cases have been indistinguishable from erythema scarlatiniform.

Recently several authorities have suggested that it might be associated with the anemias, as there was a migration of lymphocytes into the skin in great numbers. In some cases there is a tendency for a partial recovery, followed by recurrences, and the symptoms becoming more exaggerated, and terminating in pneumonia.

The secondary types are milder, in so far as the subjective symptoms are concerned. But the objective symptoms are practically the same as the primary type, but frequently not so exaggerated.

The secondary types, in most instances follow or are the end results of prolonged over stimu-

lating applications of preceding dermatoses—as psoriasis, dermatitis venenata, eczematoid dermatitis, pemphigus, etc.

This new or added complex completely overshadows all evidences of a pre-existing eruption. After the dermatitis exfoliativa disappears, there may be a return of the primary eruption.

As an example a case of psoriasis may develop into an exfoliative dermatitis by being over-treated with chrysarobin.

All patients with exfoliative dermatitis complain of being cold, and cannot put on enough clothing to keep them warm. This is a natural sequence because of the changes in the skin, viz., heat regulation and protection.

Since the advent of treating luetic patients with arsenicals, we have been called upon to treat cases of arsenical dermatitis.

It is undoubtedly the most severe of the secondary types. The symptoms both subjective and objective may be the same, or the subjective symptoms may be more exaggerated. The chief reason for placing arsenical dermatitis as a secondary type is that the cause is known.

It might be of interest to state that nine-tenths of the cases of arsenical dermatitis treated were met with in luetics that had passed the secondary stage.

The diagnosis should be easily made. The primary type is frequently ushered in by fever, debility and gastrointestinal symptoms, which is followed by an eruption, papular at first, making its appearance in the flexors of elbows, knees and groin, rapidly spreading, becoming generalized. In the advanced cases the skin is red, dry and harsh, with exfoliation.

The secondary types are usually the result of a prolonged course of stimulating local applications, of preceding dermatoses. All symptoms of the pre-existing eruption being masked.

Arsenical dermatitis makes its appearance with symptoms nearly identical with that of the primary type, but is due to a definite cause.

Treatment—Having used sodium thiosulphate and thiosinamin in this disease for several years with varying results, with three fatalities, we began to doubt their efficacy in arsenical dermatitis.

A patient was referred on July 2, 1927, with the following history: Mrs. N., white, female, married, age fifty-eight. She had had seven intravenous injections of neoarsphenamine .9 gm., from May 23rd to June 13th, inclusive.

June 14th a diffuse eruption appeared on arms, complained of general weakness. Rash spread

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gradually over the entire body, accompanied with itching.

One June 15th sodium thiosulphate gr. 15 was given intervenously three times a day. This treatment was continued to June 20th.

Then thiosinamin intervenously for six days. At this time her face began to be edematous and skin of body became tense, patient becoming irrational at times.

June 27th sodium thiosulphate and thiosinamin continued to June 30th, patient gradually becoming worse.

July 2nd gave the patient quinine sulphate, grains four every four hours night and day, increasing one grain every fourth day.

At this time furuncles appeared on palms of hands, twenty or more, which were very persistent, which had to be packed and boric acid wet dressings applied. Twelve hours after commencing the quinine there was slight improvement and by the fifth day marked improvement was noted. The quinine was discontinued on July 12th. Patient's condition much better, swelling markedly decreased, followed by rapid recovery.

We have treated twelve cases of severe and mild types of arsenical dermatitis since the recovery of this patient.

January 20, 1928, Mrs. O. H., age thirty-eight, had had on January 12-16-19, neosalvarsan .6 gm. She had slight chill three hours after last treatment, the temperature was 104, pulse 100, respiration 22. On January 20th, general malaise, temperature 105, pulse 120, respiration 22, no special pain (just tired).

January 21st general flush all over body, but no rash. January 22nd, rash on arms, face and body. Face swollen, shiny and dark red in color. At ten a. m. patient given quinine sulphate gr. four every four hours, to be increased one grain every fourth day.

January 23rd temperature 99, rash disappearing on body.

January 25th eruption gradually fading on arms, face and chest.

January 28th rash has entirely disappeared, patient feeling comfortable. Quinine discontinued.

It is the opinion of our collaborators and ourselves, in the University Hospital, that sodium thiosulphate and thiosinamin has been almost useless, either by intervenous or oral administration, in the treatment of arsenical dermatitis.

Having treated two cases of dermatitis exfoliativa successfully with the oral administration of quinine sulphate, gave us the idea to try it in

arsenical dermatitis, and we were very much gratified with the results.

In review the method of giving the quinine sulphate is as follows: Four grains of the drug are given orally every four hours, night as well as day, increasing one grain every fourth day. It being given up to the toxic effect, viz., slight trembling, which is noticed, with outstretched hands. The larger doses do not cause tinnitus aurium.

For the convenience of the patient, the oral treatment is preferably started at 2 or 6 p. m. or any preceding or following four hour period, hence having but one early morning dose at 2 a. m. We think this method of treatment far superior to any other that we have employed.

Locally corn starch baths. The bed sheets are also starched, as in dermatitis exfoliativa and pemphigus.

SUMMARY

First—Quinine sulphate is far superior to sodium thiosulphate or thiosinamin in the treatment of arsenical dermatitis.

Second—The larger doses do not cause tinnitus aurium.

Third—All patients showed improvement in twelve hours after beginning treatment.

Fourth—The therapeutic results noted, are: 1st, a temperature and pulse reduction; 2nd, gradual diminution in the edema, and scaling; 3rd, a complete fading of color. So far as we know this is a new treatment for arsenical dermatitis.

Discussion

Dr. Harry C. Willett, Des Moines—In regard to the quinin therapeutics of arsenical dermatitis which has been brought out by this paper, I feel somewhat incompetent to discuss it as my experience in this condition has been limited. For some time past I have been convinced that we have not, in a great many cases, been getting very satisfactory results from the usual routine treatment with sodium thiosulphate, and for this reason I have been very careful with my dosage of neoarsphenamine and have been watching carefully before each intravenous injection whether or not the patient had any signs of an eruption on the skin. Dr. Kessler has made a distinct contribution to our therapy in this condition by the use of quinin. We have known for some time that quinin sulphate was one of the most efficient drugs in the Wilson or Brocq type of exfoliative dermatitis. Doctors Engman and Mook of St. Louis found that these patients stand enormous doses of quinin with apparently no discomfort. Having had charge of the venereal disease clinic at Broadlawns General Hospital, Des Moines, I have been trying out the experiment of using less neoarsphenamine in the treatment of syphilis. I have

been limiting the dosage in the primary and secondary stages to eight intravenous injections at weekly intervals, watching closely at all times for signs of a dermatitis. Something over six hundred cases treated during the past year, we have had only four cases of dermatitis, and I think the results as far as getting negative Kahns or Wassermanns have been just as good as with a more intensive treatment. I wish to compliment Dr. Kessler on his work in successfully treating this very severe complication in the treatment of syphilis due to either over-treatment or an idiosyncrasy of the patient to the arsenicals.

Dr. Clarence E. Van Epps, Iowa City—Arsenical dermatitis is a very serious problem. We have had perhaps ten or twelve cases with three deaths. The prevention of this complication is a great deal more important than its treatment. We always instruct our patients to warn us of the first appearance or even suspicion of a rash or itch so that the treatment may be discontinued at once until the presence or absence of a dermatitis is settled. A dermatitis may develop after any one of the series of injections or may come a few days after the last, when the patient is already at home. We are not sure that any treatment is of great help aside from local applications and general symptomatic care.

Dr. W. W. Bowen, Fort Dodge—I suppose I ought not to say anything on this subject in view of the fact that my opinions and experience do not coincide with those of the notable men who have already spoken, but I want to say that while I have no quarrel with the use of quinin, as I have not used it, yet I am going to continue to use theosulphate because this agent is the chemical antidote for arsenic, and has been extremely useful to me, and so far as I have studied the literature on this subject it is of great use to others. Given early and in large doses intravenously and also by mouth, it shortens the course of this complication not weeks, but many months. I would like some dermatologist to explain why we used salvarsan for fifteen or twenty years without this arsenical dermatitis appearing and then all at once it appeared throughout the country at about the same time. About that time, I had some six cases. One of them was in a man who had never taken arsenic or other mineral drug, but he developed a dermatitis exfoliativa, which presented the same appearance and ran the same course as the others, all of which were from the giving of arsenic, and from which he died in about six weeks. Arsenical dermatitis is the worst disease I have ever encountered that is handed to a patient by his physician. It is a terrible thing, it is so terrible that it is almost unbelievable. Yet it gives some signs that, if heeded, will prevent its development. When a patient is being treated with arsenic, he should be questioned before each treatment as to the presence of numbness, tingling or prickling in his hands,

arms, feet or legs, and examined for the slightest appearance of icterus or erythema, and if any of these are found treatment should be suspended at once. The dermatitis begins as a slight flush on the skin of the chest, arms or back, which flush soon deepens to a bright red and is followed after a few days by an oozing exudate of a watery material, which will dry after a few days into large scales the size of a hand or larger and these after some days to a week more exfoliate and fall off and right under it there will be moist erythema, which follows the same process, and this occurs again and again for months. The skin becomes thick and hard and it is impossible to locate the veins for intravenous injection. The hair falls out and the finger and toe nails come off, then reform and come off again. The patient runs some fever, and is bedfast and suffers burning, itching and pain, and some of them die, while others slowly recover, but are stiff in the joints and muscles for months and even for years. Immediate suspension of arsenical treatment upon the first sign of trouble and the free use of theosulphate both intravenously and by mouth will prevent the extreme symptoms and shorten the disease to a few weeks. Theosulphate should not be given hypodermically into the tissues, for abscesses will develop wherever that is done.

Dr. Kessler (closing)—Some of the causes of arsenical dermatitis are as follows: 1. Too large doses (I mean larger than is necessary to accomplish the same purpose). 2. Too frequent doses. 3. Too strenuous treatment, by pushing mercury in between doses. 4. Carelessness in not examining patients preceding each injection. We are striving to ascertain whether there are any symptoms of arsenical intolerance preceding an outbreak of arsenical dermatitis, especially with reference to the function of the liver, as to a preexisting hepatitis, indicated by an increase of the bile pigment, bilirubin, in the blood. It is hard to judge whether certain drugs have any effect upon increasing the output of arsenic, as the elimination is not constant and nearly equal in amount. (Note, November 10, 1928): Up to this date we have treated thirty cases of arsenical dermatitis with quinin sulphate orally. They all recovered.

DISCOVERER OF TULAREMIA

At least one piece of recent research work has been carried out wholly in the United States, without any foreign assistance, and that was the identification of tularemia and its etiologic organism.

The man who did this work is Dr. Edward Francis, of the U. S. Public Health Service, and he was recently awarded the gold medal of the American Medical Association, in token of his accomplishment.

SOME OF THE MORE COMMON ITCHING DERMATOSES*

J. F. AUNER, M.D., Des Moines

Pruritis or itching is a pathological anomaly of sensation characteristic of the skin. It may be defined as a disturbance of equilibrium of the neurocellular elements of the skin. In the language of Pusey, "Itching may be regarded as the analogue in the skin of pain occurring in other structures".

Itching is distinctively associated with the sense of touch and, in its exaggerated form, it may amount to an intolerable torture. The pathology of itching is essentially a disturbance of the vaso-motor derangement *per se* or a vaso-motor disorder transgressed into an inflammatory process. It may occur even without appreciable pathological change from toxins in the circulating media or as a reflex irritation from cutaneous disturbances elsewhere. The majority of all skin cases which the practitioner encounters are those seeking relief from the discomfort of an annoying or an intolerable itching. If there were less confusion in the recognition of the probable cause of a given pruritus, we could afford our patients more prompt and certain relief. It might possibly clarify the atmosphere of our dilemma, to diagnose by exclusion, and therefore I am going to name in order of their frequency those skin diseases most ordinarily accounting for the subjective symptom of itching:

1. Eczema.
2. The Urticarial Group:
 - A. Urticaria.
 - B. Erythema multiforme.
3. Dermatoses from insect parasites:
 - A. Scabies.
 - B. Pediculosis.
4. Dermatoses from vegetable parasites:
 - A. Tinea circinata.
 - B. Tinea sycosis.
 - C. Tinea capitis.
 - D. Tinea versicolor.
 - E. Eczematoid ringworm of hands and feet, perineum and axillae.
5. Psoriasis.
6. Dermatitis from external toxic or chemical irritation—poison ivy, primrose, etc., *ad infinitum*.
7. Dermatitis due to degeneration of the skin:
 - A. Senile pruritus.
 - B. Bath pruritus.
 - C. Pruritus hiemalis or winter itch.
8. Pityriasis Rosea.

The clinical entities named above will cover better than 90 per cent of all the itching dermatoses which the practitioner encounters in his office so that we will not add to the confusion by widening our discussion to include some of the very infrequent yet grave skin conditions which are always accompanied by intense itching such as lichen planus, dermatitis herpetiformis, dermatitis exfoliativa, prurigo nodularis, mycosis fungoides and the other lymphogranulomata.

The age of the patient, the season of the year, as well as the location of the itching, may materially aid in the diagnosis. If an adult in middle life complains of itching they may have eczema, psoriasis, hives, scabies, or some type of ringworm dermatitis. If the individual is elderly, we must add to the other possibilities, senile pruritus or pediculosis, if he is of careless habits. If the adult individual appears for diagnosis and treatment in the spring or fall of the year, we must add to the above possibilities that of pityriasis rosea, while his or her dermatosis if occurring in the summer or early fall, may be due to exposure to some of the poisonous plants that abound in the fields and groves. During the winter months we must have in mind the possibility of a bath pruritus or irritation from toilet soaps, or the so-called "Winter itch". Where children are concerned, the affection is either eczema, scabies, pediculosis or some form of ringworm. If the scalp is involved and the patient is an adult, the probabilities are that the condition is either psoriasis, pediculosis or some form of eczema. If the patient is a child with an affection of the scalp, it is probably a ringworm infection, eczema or pediculosis.

If the face is involved in an adult, it is probably eczema, psoriasis or barber's itch. In the case of a child with itching confined to the face, the condition is usually an eczema or ringworm. Let us remember that scabies rarely involves the face or neck. An itching of the trunk and extremities should make us think of a papular eczema, a pityriasis rosea, psoriasis or scabies or tinea versicolor and add to this the possibilities in season, of a poison plant dermatitis. An intractable itching of the palms must remind us of the possibility first of scabies, eczema or some manifestation of one of the ringworm dermatites. If the dorsum of the hand is affected it is probably eczema or an eczematoid ringworm infection or scabies or erythema multiforme. Persistent itching in the pubic region or perineum may mean pediculi, eczematoid ringworm dermatitis or scabies. While an annoying itching of the soles or interdigital spaces of the feet usually mean either an epidermophyton infection or result from chilblains.

*Presented before the meeting of the Austin Flint-Cedar Valley Medical Society at Iowa Falls, Iowa, October 23, 1928.

The clinical picture of the erythematous variety of eczema is marked by reddened erythematous patches, and very evident swelling with the subjective sensation of itching. These patches always shade off gradually into the normal skin of the surrounding area. The usual distribution is the forehead, face, eyelids and reflected around and about one or both ears, and frequently down upon the neck and thoracic region. It frequently occurs, also, under the breasts and the umbilical region. The clinical appearance of a vesicular eczema—the classical and typical form of the eruption of this symptom complex called eczema—occurs in the form of small acuminate vesicles situated on a reddened infiltrated base followed by a serous exudation and crust formation invariably associated with itching. It is simply the erythematous eczema transgressed into an irregular red, inflammatory area which finally exudes a clear gummy fluid capable of stiffening linen. Patches of vesicular eczema may occur anywhere upon the skin. The most frequent locations are the face, the dorsum of the hands, the external aspect of the forearm and the circumference of the ankles as well as the anterior and inner aspect of the leg.

The papular variety of eczema is usually distributed upon the flexor surfaces of the joints with the exception of the nape of the neck, where it is frequently encountered. Its clinical appearance may be described as agminated small papules upon a tawny or reddened infiltrated base gradually fading into the surrounding skin, and invariably associated with a persistent pruritus. Papular eczemas are dry eczemas. The vesicular form of true eczema does not have its patches sharply circumscribed and, in this particular, it is differentiated from the eczematoid ringworm infection. An apparent eczematous eruption in the interdigital spaces between the toes or reflected upon the sole of the foot is almost invariably not vesicular eczema *per se* but the vesicular type of the epidermophyton infection—an itching ringworm dermatitis. Where this discrete vesicular eruption occurs between the fingers and reflected upon the palmar surface, it is usually either the vesicular type of the epidermophyton infection or scabies. The dyshydrosis of the palm of the older writers was probably nothing else but the vesicular type of the ringworm infection just mentioned. Patches of erythematous eczema are distinguished from dermatitis venenata by the larger blebs and the lessened infiltration as well as the more widespread diffusion of the plant dermatitis, compared with the areas of erythematous eczemas. Note that vesicular eczema pre-

sents patches of vesicles on an infiltrated inflamed base while the plant dermatitis present a reddened inflamed but not markedly infiltrated base.

Perhaps the keenest differentiation required in diagnosis of skin affections is to avoid the common error of accepting the clinical evidence of scabies for vesicular eczema. If we will bear in mind that the primary lesion of scabies is the burrow visible to the naked eye as a minute furrow in the skin, and that this primary lesion, if carefully searched for, can usually be detected between the fingers, in the palms, and on the extensor and flexor surface of the wrist, then the diagnosis of the condition will be readily made.

The distribution and multiformity of the eruption such as papules, small vesicles and often blebs and pustules when taken into consideration, are so characteristic of scabies, as to become pathognomonic. There is no other skin disease with the characteristic features of scabies which invariably has for its points of predilection the interdigital spaces of the dorsum of the hand, the palmar surface and frequently the soles of the feet, the flexor surfaces of the wrist, the anterior folds of either axillae, the nipples in women, the umbilical region in either sex, and on the shaft of the penis or the glans in the male patient. There are two other diagnostic points to be remembered in regard to scabies; it rarely if ever affects the face, and the itching, while more or less continuous, is always worse after retiring at night.

An apparently eczematous patch on the back of the neck below the hair line on a child is strongly suggestive of pediculosis capitis. Pruritus hiemalis the so-called winter itch occurs in individuals who from inherited tendency or some constitutional dyscrasia, suffer from an insufficient secretion of the sebaceous glands of the skin. These patients are abnormal in the fact that they perspire but slightly and with difficulty and their skin is lacking in the natural oiliness and is usually dry, harsh and irritable. This form of pruritus is commonly confined to the lower extremities though occasionally involving the arms and torso—particularly the back. It is usually observed in adults and begins with the coming of cool weather in October and November, and often persisting until late spring. It is not constant, but usually comes on at night when the patient is disrobing or like scabies, just after retiring. The malady varies in severity and is mitigated in milder weather in contradistinction to scabies.

Another variety of bath pruritus is observed

in individuals of all ages who suffer from the hypofunction of the sebaceous glands like those unfortunates just described. The itching and burning follows immediately after bathing. The feeling varies from a slight prickling to an almost intolerable itching. While the pruritus may be general, it commonly affects the legs from the hips down. It is usually of longer duration when the patient retires immediately than if his clothing is immediately donned. These patients are often over-zealous in the use of soaps and hot water thus keeping the skin eroded of the natural sebum—moreover these patients often add to the irritability of the skin by wearing fleece-lined or heavily ribbed under-clothing.

The most common factors to be considered in the etiology of a generalized pruritus are digestive disturbances, hepatic disorders, the symptom complex of Bright's disease, diabetes, tuberculosis and depraved states of the nervous system generally. Every careful clinician has observed the pruritus associated with jaundice.

The characteristic lesion of urticaria—the wheal is familiar to every general practitioner and needs no further comment.

Other than the wheal, the excessive irritability of the skin in this condition permits of the production of an artificial urticaria—termed dermographism, a term which signifies the possibility of writing on the skin thus affected; for a typical linear wheal, elevated, white in the center, red at the border and rather firm to the touch, can be produced by simply drawing a dull instrument over its surface.

Erythema multiforme is not often identified as such by the uninitiated, but its diagnosis is not difficult if we will bear in mind that it occurs as plaque-like subacute papular or bullous lesions which are usually symmetrically distributed showing a marked predilection for the dorsal surfaces of the hands and feet and the external aspects of the forearm and leg.

The lesions are of pinkish or violaceous color, slightly elevated and sharply circumscribed, enlarging after their appearance upon the skin reaching their full size in twenty-four hours. In fact, the alarming appearance of the patient is all out of proportion to the severity of his constitutional symptoms. The patient may be covered with these pinkish plaques of erythema multiforme and complain of little or no illness otherwise than the frequent accompanying pruritus.

The recognition of pityriasis rosea should not be difficult if we remember that we are particularly liable to encounter it in the spring and fall of the year, and that it is generally distributed on

the upper part of the trunk, arms and legs. The lesion of this cutaneous disease is either a macule or a maculopapule, oval in contour and pinkish or fawn-colored with a fading center.

A curious and important characteristic of this disease is, that the patient will tell you of a particular lesion which appeared alone preceding the main outbreak by a few days—the so-called sentinel spot.

It should be remembered that ordinary ringworm or *tinca circinata* generally occurs on the neck, face and dorsum of the hands.

The characteristic lesion here is sharply circumscribed nummular or coin-shaped lesion with an elevated border and a clearing center, the individual lesions being few in number.

There are three salient points in the diagnosis of psoriasis; namely, first, the almost invariable involvement of the extensor surfaces of the elbows and knees as well as the scalp. Secondly, that it is a dry dermatitis—it never weeps. Third, that it occurs in sharply circumscribed reddish papules covered with a shiny whitish imbricated scales, the removal of which, frequently show capillary hemorrhages.

In conclusion let us remember that the protean manifestations of syphilis in the skin may at times almost perfectly simulate any and all of the clinical entities above described, but we should not forget that syphilides of all kinds and character rarely itch.

PRURITUS AND ITS TREATMENT*

GUY B. ANDERSON, M.D., Ackley

Pruritus and its treatment is such a wide subject, and the causes so many, that I am going to confine the discussion to pruritus ani and its treatment by the means which have given me the best results, and which I hope will be of benefit to this Society.

Pruritus ani may be defined as that condition of the anorectal region which has for its principal symptom an intense itching of a peculiar burning, stinging nature, usually worse at night. The region is covered with a thickened, edematous skin; often thrown into folds which radiate from the anal orifice, often accompanied by one or two red lines. If only one is present, it is in the posterior median line. These lines are sometimes several inches in length, and vary in width from that of a fine line to one over a half inch wide.

*Presented before the meeting of the Austin Flint-Cedar Valley Medical Society at Iowa Falls, Iowa, October 23, 1928.

The skin feels thick and often leathery, but if carefully examined, one is usually able to find spots which are softer than the rest of the area. These spots are reservoirs containing an acrid exudate which has come down from above outside the mucous lining of the rectum and settled. (Pruritus ani seems to be absent in animals which walk on all fours.) If too much of this exudate comes down, it is forced along beneath the skin forming the channel, which is seen as the red line mentioned before.

There is also great irritation and exhaustion of the nervous system due to loss of sleep and mental anxiety. The pruritic area is elliptical, extending about two to three inches from the center of the anal opening, although in some cases it may be larger.

The condition is found affecting the people of all countries. It occurs at all seasons and in all classes of all the races, although the so-called more civilized peoples show it more often than some of the others. This is particularly true of the people of the United States and England, due largely to the foods consumed and the manner of living.

Both sexes are affected and about equally, and all ages from a child of a few years to a person in the seventies. I have seen it in a child of two years, and just recently had a case in a lady seventy-four years of age.

People who lead a sedentary life and those who are irregular or careless in their habits are more prone to develop the condition than are those who are active and more regular, providing they eat properly and enjoy good digestion.

It is not possible, in this paper, to discuss all the causes of pruritus ani, as the number given in one textbook alone on skin diseases, is over two dozen. Then too, the fact that the subject will be discussed by Dr. Stam, and that Dr. Auner is to speak on "Some of the More Common Itching Dermatoses", assures us that the subject will be attacked from all angles, and discussion is the life of any society.

However, among the conditions favoring its development, are chronic visceral diseases especially those of the liver and the alimentary tract, and those due to faulty habits of living. In some cases local diseases or conditions of the perineum, may be a part of the etiology as may also poor general health. But the one factor having the greatest influence in the development of the condition is an acid enterocolitis that manufactures an acrid fluid as a by-product which by osmotic action, passes through the mucous membrane and gravitates downward, through and under the sub-

mucous tissue until it reaches the subcutaneous tissues of the perineum, where, under pressure, it forms channels or reservoirs, called Jamison's channels. These channels must not be confused with the normal lymphatic channels under the mucosa and anal skin. Pressure causes the exudate to seep through the skin creating the moist condition of the parts so often referred to by patients as sweating. This exudate has a peculiar odor, much like that of decayed fish, and unlike that of perspiration.

The pathology is that of an exudative dermatitis from a chemical irritation. To this may be added the excoriations from scratching. If any infection is present, it is of a secondary type, as there is no demonstrable primary infection of the perineal skin or the pockets or channels as the cause of pruritus ani, although some years ago Murray thought it was due to a germ, called streptococcus fecalis, and with this was linked the septic diaper. If the old-fashioned diaper played a part in the causation of pruritus ani, what must be the effect of the modern rubber pants put on children by unthinking or ignorant mothers, and these very often on the advice of the doctor. All this has long since been disproved.

The symptoms are an intense itching of the perineum, nervousness often very marked; insomnia because worse at night; melancholia, and pain due to the lacerations from scratching. The itching may be continuous or interrupted. The attack usually lasts about ten to fifteen minutes and may be so severe as to drive the patient almost to distraction. I have seen cases so severe, and the patient so upset that he was thought at first, to be in for some form of mental derangement; and I have also seen cases in which the hands of the patients were tied to prevent scratching.

Heat and moisture intensify the itching. Often you will see the patient walking with the legs apart to allow more air to pass over the part. Some patients either through superstition or otherwise will tell you that it is a visitation of Deity that they have to suffer such intense itching. The diagnosis is easily made from the symptoms and the appearance of the parts both without and within the rectum.

Now we come to the treatment—the most important feature in the practice of medicine next to diagnosis. Many formulae have been used, some with pronounced success so far as allaying the itching is concerned, and some with little results. You all have seen the little utensil used by some painters to scrape off paint, which has a

rather dull blade on one side with a stiff brush on the other; the brush made of coarse material or even wire. Housewives frequently use it in preparing potatoes or carrots. You would not think this a very valuable instrument for a pruritus case, and still I saw a man who carried one with him and even took it to bed with him so he could scratch the parts. And, gentlemen, this instrument can be, or at least could be, purchased from a gentleman in one of our larger cities as a sure thing for pruritus ani, and he sent along with it, so I am told, complete directions as to its use.

Farmers have used a cob to scratch with. While this may sound very crude for treatment, still it has not been over a dozen years since I heard a professor in one of our leading medical colleges say that often it is necessary to either put mittens on the hands of the patients or excise the skin of the region. No other than Sir Charles Ball of Dublin, in his book "Diseases of the Rectum" recommends the undercutting flap method of treatment. This consists in the making of two elliptical flaps of the perineal skin—one on either side and then clipping all the nerve endings supplying the area. Some have injected alcohol of varying strengths into the subcutaneous tissues, others have used phenol, quinine and urea hydrochloride, hydrochloric acid and other agents. These are either palliative or are to be condemned if used to produce slough.

The treatment about to be given is not original with me, but gives very pleasing and gratifying results in the great majority of cases.

First—Clean out the intestinal tract with a good dose of castor oil, or divided doses of calomel followed by a brisk saline purge. The castor oil is to be preferred if the patient can tolerate it because of its well known effect on the intestinal mucosa. The calomel and saline often cause a burning of the anus.

Second—Have the patient fast for a short time, say for twenty-four to thirty-six hours, drinking plenty of water meanwhile. During the fast, give the sulphocarbolates in generous doses every three or four hours, followed by water. Keep this up for two or three days after the fast. Give some good preparation of the acidophilous bacillus for a few days. The fast should be broken gradually with fruit juices or other anti-acid forming food. The diet following should be largely alkali forming to hurry up the overcoming of the acid balance. I have each case use lacto dextrin also in large doses.

Third—The pockets and channels should be opened and drained using a weak anesthetic; then

swabbed out with the old preparation of equal parts of camphor, phenol and chloral hydrate or U. S. P. glycerite of tannic acid or tinct. benzoin comp. followed by a light gauze or cotton wick and covered with some ointment or lotion containing anesthesin or butesin. Often the relief is immediate and patients will return the next day saying there has been such an improvement they were able to sleep nearly if not all night. But do not rely too much upon the application of the ointment or lotion. The big thing is to open the channels or pockets and keep them open until all the exudate has drained out.

Another beneficial aid in my hands has been the ultra violet ray. Just why it acts as it often does in allaying the irritation, I am unable to say. I use it daily on some cases and on others from once to three times a week. Some it fails to influence at all.

Keep constantly in mind that the intestinal tract is the seat of the trouble and direct the measures toward cleaning it up and keeping it clean. To do this you must have the whole hearted co-operation of the patient. And you all know how hard it is sometimes to do this, especially after a case of colitis has done well under your care for some time, then flares up again because the patient thought that some pastry or other food was "so good, it just couldn't possibly hurt me".

The irrigation of the colon is very often a good help. This the patient can be instructed to do. He should also drink lots of water. Buttermilk, cottage cheese and sauer kraut juice are also excellent for these cases. A general tonic of the arsenates with nuclein is given.

The diet should be largely alkali forming and consists mainly of fruits and leafy vegetables. Milk and cream are good, especially sour milk or clabbered milk if not offensive to the patient. About every two to four weeks have the patient fast again, using the same measures as stated before. This seems to be better than a fast of several days for obvious reasons.

If the channels reform or close too soon after being opened, open them again at once. This is easily and quickly done and causes little or no ill after effects such as pain or irritation.

In conclusion, let me say, use locally your favorite preparation or aids, but drain out the exudate and direct your attention to the intestinal tract higher up. You will have little success with pruritus ani so long as there is colitis, proctitis, prolapse of the membrane or one of the many other conditions so often found.

STATE HEALTH COMMISSIONER'S PAGE



Henry Albert, M. D.



PREVALENCE OF COMMUNICABLE DISEASES

The most prevalent communicable diseases of the past month have been scarlet fever, measles, small-pox and chicken-pox.

SCARLET FEVER

Scarlet fever is most prevalent in the eastern half of the state. There has been a reduction in the number of cases during the past month. It should continue to subside until it reaches its lowest seasonal point in August.

VALUE OF PROTECTIVE ACTIVE IMMUNIZATION AGAINST SCARLET FEVER DEMONSTRATED IN WATERLOO

While experiencing a rather extensive epidemic of scarlet fever early this year, the local board of health, with the endorsement of the local medical society, requested the State Department of Health to invite the Scarlet Fever Committee of Chicago to come to Waterloo in order to demonstrate the value of active immunization against scarlet fever.

The Scarlet Fever Committee, with Dr. Paul Rhoads in charge, began its work March 11th, and completed its work May 8th. The results confirm those obtained elsewhere and demonstrate effectively the value of the protective inoculation against scarlet fever as indicated by the following figures:

East Waterloo School population.....	4,377
Number of children found to be susceptible by the Dick test. (This represented about 50% of those tested.).....	783
Number of children who completed the five dose course of treatment.....	492
Number of children of entire group (east side school population) who contracted scarlet fever between March 11th and May 8th.....	62
Number of cases developed in the 206 children found susceptible by the test but who did not take the treatment.....	11
Number of cases developed in the 492 children found susceptible and who completed the treatment.....	None

Two cases developed in children before they had become immunized, one in a child after the first dose, and one after the second dose. On the basis of these figures, the immunization has prevented at least twenty-five cases of scarlet fever to date. The results to date tell, of course, only a part of the story of the protective value

of immunization. If scarlet fever continues or reappears, more of the susceptible but unprotected may be expected to contract the disease. No cases of scarlet fever have ever occurred among the many thousands of children immunized by the Scarlet Fever Committee during the past four years. After the completion of the fifth dose, all were given the Dick re-test. Of the group, 92.7 per cent were found to be immune. Six and three-tenths per cent were still slightly susceptible and were given a sixth dose.

MEASLES

Measles is most prevalent in the western half of the state. Contrary to the seasonal trend, it has been on the increase during the past month. The summer months usually represent a dull period for measles. We rather anticipate a more than seasonal increase next fall.

POLIOMYELITIS (INFANTILE PARALYSIS)

The seasonal increase of poliomyelitis usually begins in June. Although we do not yet have any indication that there is to be any more than the usual seasonal increase this year, it is well to keep the possibility of this disease in mind especially in communities where a case has been definitely diagnosed. It would be well for every physician to re-read the very excellent article on "The Epidemiology of Poliomyelitis" by Frost which appeared in last month's number of this Journal.

AGRANULOCYTIC ANGINA—A NEW DISEASE—TWO CASES IN IOWA

According to the death reports received by this Department, two cases of this relatively new disease have recently occurred in Iowa. These are as far as we know, the first two Iowa cases. These cases were reported by Dr. S. A. O'Brien, Mason City, and Dr. E. E. MaGee, Waterloo, Iowa.

Agranulocytic angina was first reported by Schultz in Germany in 1922. Up to December, 1928, a total of 152 cases has been reported. It is not known whether it is a distinct clinical en-

tity or merely a symptom. Cause is unknown. The chief characteristics of the conditions are the following:

1. Sore throat varying from hyperemia to deep ulceration. The breath is usually foul.
2. General symptoms such as headache, dizziness, malaise, and pains referred to the chest, abdomen and extremities.
3. *Marked leukopenia* effecting especially the polymorphonuclear cells. The total white count, as in Dr. O'Brien's case may be as low as 100 cells per cubic millimeter. There is a marked reduction in the percentage, or even a complete absence of polymorphonuclear cells. The red cells changes are those of secondary anemia.
4. *Very grave prognosis*—the cases usually terminating fatally in from a few days to a few weeks. Some cases reported as possible agranulocytic angina have recovered in due course of time, but these cases have been classed as infectious mononucleosis, a condition to be considered in making a differential diagnosis.

Serum Reactions—Their Prevention and Treatment

So many physicians hesitate to administer serum where needed because of the possibility of having a serum reaction, that it appears advisable to briefly mention the type of serum reactions, the manner of their occurrence and their prevention and treatment.

Three types of reactions may follow the injection of a serum, including, of course, antitoxin, as well as an antibacterial serum:

1. Local necrosis (Arthus phenomenon)—very rare.
2. Collapse (rarely death)—occurs chiefly in individuals subject to hay-fever, asthma, hives or other evidence of hypersusceptibility.
3. Serum sickness. This is the well known phenomenon which usually occurs about a week after the injection. It may occur within three hours or may be delayed three weeks. It consists chiefly of an itching skin rash, frequently with urticaria and tenderness and pain in the joints.

An immediate or accelerated serum sickness often called anaphylaxis, frequently follows a previous injection of serum (made a week or longer before).

Serum sickness is not serious—does not prove fatal but is very annoying and disturbing.

It is therefore advisable to be prepared to prevent these symptoms if possible—and to treat them effectively when they occur.

The treatment of serum sickness given below are as per directions of Dr. Paul Rhoads of the Scarlet Fever Committee. Dr. Rhoads states that observing the directions here given, they seldom have a serum reaction not easily controlled and that they have never had one of serious import. This means a great deal when considering the thousands of persons who have been treated by the committee.

1. (a) Epinephrine (adrenalin) (ordinary 1 to 1000 solution) 10 minims (two-thirds c.c.) for adult—children in proportion—administered hypodermically every two to three hours. In place of adrenalin, one may use
- (b) Ephedrine—three-fourths grain (in capsule)—by mouth every four hours.
2. Aspirin—10 grs. every four hours. Tends especially to allay itching.
3. Calcium lactate—2½ grs. (tablet or in capsule) by mouth—every 3 or 4 hours.

4. Sodium bicarbonate and sodium citrate—30 grains of each—three times a day.
5. Saline purges.

(Continued on page 297)

CASE REPORT

HERPES ZOSTER FROM CHICKEN-POX EXPOSURE*

JAMES E. DYSON, M.D., Des Moines

Roger C., age eight, normal well nourished boy had chicken-pox at one and one-half years. He was exposed to chicken-pox January 8, 1929, and began having herpes zoster January 22; fourteen days afterward. The herpes zoster consisted of vesicles and itching papules along the course of the eighth and ninth intercostal nerves on right side. Examination was otherwise negative with exception of a large right tonsil. The herpes was relieved by treatment and cleared up in four or five days. He did not show signs or symptoms of chicken-pox.

I report this case to bring to mind the relationship of these diseases. Several cases have been reported the past two years in the German and French literature. Its occurrence is not a coincidence. Johann Von Bokay¹ states that as early as 1888 it came to his attention in general practice that herpes zoster might occur in one member of a family and varicella in another member of the same family and up to 1918 he had collected fourteen cases of apparent relationship between the two conditions. He relates the instance of an adult who had herpes zoster on the arm and twelve days later his children developed chicken-pox.

Various clinical instances are described in which varicella in one person was followed after two weeks by herpes zoster in another. Usually the herpes zoster occurred in elderly people who thus became a source for varicella in children. Several instances are described where herpes zoster and chicken-pox occurred in the same patient.

Serologically it has been demonstrated that varicella and zoster give the same immune body reactions. It has also been possible to inoculate children with material from herpes zoster and bring about the clinical condition of varicella.

1. Jahrb. f. Kinderh.; March, 1928.

*Read before Medical Study Club of Des Moines, May 1, 1929.

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The Cardio-Vascular System

II. ETIOLOGY OF HYPERTENSION

Hypertension was unknown a few decades ago, but today it is recognized as one of the most sinister of man's enemies, for, according to Fahr,¹ it annually kills 140,000 persons in the registration area in the United States. When cognizance was first taken of high blood-pressure, it was thought to be due to lesions of the kidney, and today it appears to be established that narrowing of the vascular bed in the kidneys, be this due to the scarring of an old nephritis, tumors in or about the kidney, or cystic degeneration of these organs, brings about an increased arterial tension. It is also known that aortic insufficiency leads to high blood-pressure, and there is a distinct tendency for the blood-pressure level to increase in old age. But all these causes together are responsible for only a small percentage of hypertension. The vast majority of cases of this type belong to the so-called "essential" hypertension group, where the actual cause is yet unknown. The various factors which have been put forward from time to time as exciting agents, such as Allen's² disturbed sodium chloride metabolism, Major's³ increase of guanidin bodies, the strenuousness of modern life, over-indulgence, endocrine factors, infections, and other alterations in the metabolism, all fail to stand the test of disinterested scientific scrutiny.

Every clinician of any experience has noted a familial tendency to high blood-pressure and the more this phase of the subject is studied, the more startling becomes the evidence of the influence of heredity—thus Weitz⁴ examined the families of eighty-two patients with hypertension and concluded that hypertension was transmitted as a dominant Mendelian trait, and O'Hara⁵ et al found hypertension in 68 per cent of the families of 300 cases of high blood-pressure and only 37 per cent in 436 controls. Glomset, Daniel J.,⁶ examining the families of 100 cases of hypertension, found evidence of high blood-pressure in four generations five times, in three generations thirty-two times, two generations sixty-three times, and of children with super normal blood-pressure 38.8 per cent gave a positive history, whereas in 1,811 children of normal blood-pressure, similar evidence was present in only 9.8 per cent.

Hence it appears that there is a hereditary factor in hypertension, but the actual condition that brings about the heightened tension is unknown at the present.

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Editor's Note—This is the second of a series of editorials dealing with the modern advances in cardiology. The third of the series will be published in the July issue and will discuss recent contributions to our knowledge of "Hypertension and Organic Heart Disease".

SPINAL ANESTHESIA IN ABDOMINAL SURGERY

Is spinal anesthesia of sufficient merit, safety and advantage over general anesthesia to justify its use? A recent visit to the eastern clinics and a careful study and observation of this method has convinced me that it is the anesthetic of choice in some cases where surgical therapy is indicated below the level of the diaphragm. No anesthetic is ideal and it should be the aim of every operator to make an anesthetic fit the patient rather than the patient fit an anesthetic; e. g., we would harbor some misgivings in doing a leg amputation on a diabetic patient under ether

anesthesia; certainly ether would not be the ideal anesthesia in such a case. To state that spinal anesthesia is the anesthesia of choice in some cases might provoke the impression that it is a dangerous procedure and requires a careful selection of cases. It is not without its dangers and a thorough knowledge of administration and management are essential. It has definite indications and contra-indications, definite advantages and disadvantages. There are cases where it is the anesthesia of choice; other cases where it can be used and still others where it is definitely contra-indicated.

Prior to the discussion of its indications and advantages let us consider the phenomena accompanying spinal anesthesia. Following the induction of the drug into the subarachnoid space the patient experiences a feeling of warmth. Coincident with this the limbs feel heavy and analgesia is soon established. My cases have experienced a feeling of pressure and heaviness in the epigastrium soon after analgesia. In a short time cutaneous pallor is observed most pronounced in the face usually associated with a drop in systolic blood-pressure and a slowing of the pulse. This reaction is dependent to a great extent on the height and concentration of the anesthesia and is observed more intensely in the higher anesthesia than in the lower ones. It is due to nerve roots involved and extent of involvement producing splanchnic paralysis, vaso-motor, with the resultant pooling of blood in the splanchnic area. The cardio augmentor nerve fibers may be blocked producing the vagus effect with little antagonism. These effects comprise one of the chief dangers of spinal anesthesia especially in the high anesthesia, however the anesthesia is safe in selected cases if we observe the proper technique of induction and management during the anesthesia being cognizant of the possible dangers and the means necessary to combat the depression.

The selection of cases will depend to a great extent on the height of anesthesia. For operations below the level of the umbilicus the anesthetic is relatively safe. Any involvement of the cerebro spinal system precludes the possibility of its use. A highly nervous apprehensive patient is not a good subject for in these cases the psychic shock would counter balance many of the good effects. Depression and hypotension are considered definite contra-indications to spinal anesthesia especially the high anesthesia. A systolic blood-pressure of 100 is considered the lowest safe limit. Patients with a low cardiac reserve and an unstable circulatory system do not react

well to a sudden vaso-motor change and are not good subjects.

The advantages of spinal anesthesia: The ease and rapidity of induction is a distinct advantage. The drug is injected into the subarachnoid space producing a physiological block which interrupts conduction along the fibers of the nerve roots; the anesthetic effect is almost instantaneous. The silent belly is a term well predicated of the abdomen under spinal anesthesia. Relaxation is complete; this facilitates intra-abdominal manipulations with little trauma and shock. Seldom is it necessary to introduce packs into the abdomen. Post-operative progress is smoother since there is little metabolic disturbance.

Aside from the possible dangers that may be encountered, one of the disadvantages of this form of anesthesia is the limit to its duration and operations requiring time greater than this limit must be finished under general anesthesia.

I have used spinal anesthesia in some of my abdominal work with gratifying results. I have closely adhered to Dr. Labat's technique.

Technique—Dr. Labat's technique is described as follows: By means of the left hand, locate the space, choosing between the twelfth dorsal and first lumbar for high anesthesia; between the first and second lumbar for medium anesthesia and going down the vertebral column until we reach the third and fourth for low anesthesia; that is to say for the lower extremities. When the needle has been introduced, the stylet is removed, the cerebro spinal fluid is allowed to flow out in a small ampule containing the neocaine crystals, ten or twelve centigrams (about one and a half or two grams) and the ampule is almost filled with the fluid. With a spare needle connected to the syringe the contents of the ampule is stirred by repeated aspirations and discharges so as to dissolve the neocaine crystals contained in it. The solution is thus made very rapidly and finally aspirated into the syringe. The air taken in with the solution is expelled. The needle is disconnected from the syringe which is now adjusted to the needle already introduced in the spine. During these manipulations the syringe and needle must be steadied so that the needle may not be displaced. Some of the cerebro spinal fluid is then aspirated into the syringe 2-3 c.c. When new fluid has been aspirated into the syringe the injection is made very slowly; injecting more than half the contents of the syringe and again new fluid is aspirated, about as much as the syringe now contains solution. This is repeated until after three or four aspirations and slow injections the contents of

the syringe are discharged into the subarachnoid space. The syringe and needle are removed at the same time; the patient is placed flat on the back and the head of the table lowered. Patients are kept in this position during the operation and for three hours at least after operation.

Case Reports

Adult female; patient age twenty-two, nurse.

Preoperative diagnosis—appendicitis acute.

Operation—appendectomy.

Blood-pressure—systolic 120; diastolic 72.

One-half c.c. of Labat's cardiac stimulant was given which raised the blood-pressure to 132 systolic. Twelve centigrams of neocaine was administered between the second and third lumbar. Anesthesia was immediate. Patient was on the table eighteen minutes. No evidence of depression during operation. Lowest blood-pressure recorded was 116. Patient had a smooth convalescence.

Adult female; patient age seventy-three.

History—nausea, vomiting, abdominal cramps.

White blood count 12000, an antecedent gall-stone history.

Preoperative diagnosis—appendicitis acute, cholelithiasis.

Operation—appendectomy. Cholecystectomy.

Spinal anesthesia was deemed the most ideal in this case because of her age and infirmity.

In this case no stimulant was given. Her blood-pressure prior to anesthesia was 140 systolic, 70 diastolic, pulse rate 116. Twelve centigrams of neocaine was administered between the 12th dorsal and 1st lumbar. The effect was immediate. In ten minutes after induction the systolic pressure dropped down to 60 and pulse rate 64. Cutaneous anemia was evident in her face, however she felt well and her condition was good. She was on the table thirty-five minutes and owing to the complete relaxation it wasn't necessary to bend the table or place a pad under her back to render better exposure, a procedure frequently done under general anesthesia. This patient never vomited following the operation and made a good recovery.

Adult female; age forty-two; a gall-bladder.

History of six months' duration.

Preoperative diagnosis—cholelithiasis.

Operation—cholecystectomy.

Blood-pressure—systolic 100, diastolic 60.

Ten minutes prior to operation, 10 minims of adrenalin 1-1000 was injected deep into the gluteal muscles. In ten minutes following the administration her systolic pressure was 120 and diastolic 70. Twelve centigrams of neocaine was administered between the 12th dorsal and 1st lumbar. Ten minutes after anesthesia was induced the systolic registered 60, five seconds later it was 80. At the end of the operation the systolic was 100. The patient was on the table thirty-five minutes. Rapid anesthesia was obtained and relaxation was complete.

Patient slightly nauseated a few hours after the operation. Her convalescence was smooth.

Adult female; age seventy-three, admitted to hospital with broncho-pneumonia. She ran a septic course for two weeks. Coincident with the cessation of her temperature she began to experience severe abdominal pain associated with nausea and vomiting. The vomiting became persistent and she regurgitated everything she ate. Her past history revealed considerable trouble with her stomach. Following pneumonia she was in a depressed atonic condition which was intensified by the additional gastric disturbance.

Preoperative diagnosis—carcinoma of stomach. Cholelithiasis.

Operation—gastro-enterostomy.

Blood-pressure—systolic 120, diastolic 68.

Labat's cardiac stimulant was administered. It had little effect on her blood-pressure. Twelve centigrams of neocaine were administered between the 12th dorsal and 1st lumbar. Anesthesia was immediate. Her systolic pressure dropped down to 60, then to 40 and finally we were unable to record it. Her breathing was good, but the pallor in her face was striking. Her gall-bladder contained no stones. There was a large indurated mass at the pylorus with complete occlusion. A posterior gastro-enterostomy was performed. She reacted well and left the operating room in good condition.

The reaction during anesthesia in this case was too depressive. When we were unable to record her blood-pressure she was in a dangerous condition. I have felt that her age and debility should have either precluded the use of spinal anesthesia or have prompted me to use a much smaller dose. If I were to use spinal anesthesia again under the same antecedent conditions I would use half the amount and if necessary depend on a supplement.

In conclusion I will state that my experience with this form of anesthesia is limited but the results have been gratifying. In the selected cases where it can be used with safety it approaches the ideal, not only from the patient's standpoint but the complete relaxation facilitates the operator in intra-abdominal work. This reduces trauma and shock to the minimum. Post-operative progress is smoother, seldom have I seen any distention.

In my short series I have used different stimulants, and in one case I omitted a stimulant. In this case where the stimulant was omitted the patient had a good heart reserve to accommodate for the sudden vaso-motor change. Adrenalin 1 minim of the 1-1000 solution for every ten pounds of body weight injected intramuscularly is the drug of choice in many of the clinics where spinal anesthesia is used extensively. Neocaine is an indifferent solution in as much as the crystals are dissolved in spinal fluid. For this reason

the solution remains where it is injected. Anesthesia is due to diffusion and not gravitation. The Trendelenberg position is assumed to combat cerebral anemia. Preliminary stimulation is an added measure of safety. I feel that the operator should give his own anesthetic. In this way he can assume all the responsibility.

Spinal anesthesia, as we have it today, is a new modification of an old method, it has many possibilities and in certain cases it approaches the ideal and deserves the consideration of every abdominal surgeon.

—H. F. DOLAN, A.B., M.D.,
Mercy Hospital, Anamosa, Iowa.

OBSTETRICS IN THE CURRICULUM

During the present revolt against the old-style curriculum in medical colleges and the consequent experimentation along lines of medical education, it would seem that attention should be directed to the actual, practical needs of the students, who, presumably, will soon enter the active practice of medicine. As medical science has developed, its ramifications have multiplied to the point where the amount of information, which may be imparted, is entirely disproportionate to the amount of time available in the four years allotted. Selection is, therefore, necessary, and the basis for that selection should be the needs of the general practitioner.

With statistical information available from widely disseminated questionnaires (committee on maternal welfare) to show that the average general practitioner does several times as much obstetrical work as he does general surgery, Doctor Palmer Findley has recently analyzed the curricula of representative medical colleges, and has found that general surgery (exclusive of the surgical specialties) is given, on the average, four and one-half times as many hours as is obstetrics. As a result of these investigations, the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons has gone on record as favoring a reallocation of the hours in our medical curricula given to general surgery and to obstetrics.

The fault with the obstetrical teaching in the majority of our medical schools would seem to be two-fold, too few hours for clinical instruction and too few patients for reasonable clinical teaching. The two are intimately related for even now the theoretical instruction offered is usually equal to the needs of the students, and is comparable to that presented in other branches. Practical experience in the art of the accoucheur

is rarely available in sufficient amounts to make the recent graduate at all familiar with the problems which he must face as soon as he enters practice.

The new practitioner is not called upon to do major surgical operations, but he is popularly supposed to be able to manage successfully even a complicated obstetrical case, and his reputation in the community may depend largely upon the outcome. And yet, it is apparently assumed that he may acquire the latter ability, which often requires the highest degree of judgment and technical skill, in a small fraction of the time required to make him a helpless novice in the former. To quote Sir William Sinclair (from Findley's article): Students are taught surgery which they will not practice and later practice midwifery which they are not taught."

In our State College of Medicine, the condition as regards the distribution of hours is very much better than the average, with obstetrics, exclusive of gynecology, given 183 hours and general surgery 426 hours in the present curriculum. There is probably little need to increase the amount of didactic instruction but certainly more hours will be needed if adequate clinical instruction is to be given. The amount of material available for teaching is at present entirely too small to permit any great expansion in this direction, but the principle involved remains the same. Investigation reveals that in no one year have there been as many as three hundred deliveries in the University Hospital, and yet those cases must be used for teaching practically one hundred students in each of the two upper classes.

The Faculty of the College has always shown its willingness to apportion sufficient hours for instruction, but it is only the medical men of the state who can alleviate the other difficulty. Admissions to the institution must be arranged by them, and it is generally believed that when they appreciate their opportunities in this direction there will be an increase in the number of obstetrical admissions. Indigent married women and illegitimately pregnant girls constitute the types of material which are especially desired.

MEDAL TO DR. BOVIE

The John Scott medal and a \$1000 prize from the City of Philadelphia have recently been conferred upon Dr. W. T. Bovie, head of the department of biophysics, Northwestern University, for his work in developing surgical apparatus which substitutes the electric current for the knife.

POSTGRADUATE COURSE IN FRANCE

We are informed that there will be a postgraduate course in ear, nose and throat surgery for American physicians, at the University of Bordeaux, France, commencing July 22, 1929.

Dr. Leon Felderman, 413 Mitten building, Philadelphia, Pennsylvania, is in charge of registering the American physicians for this course.

for one, two, and three months. Classes will be limited to ten students each. The course will be a practical demonstration of dermatological material in the Jewish Hospital where some eight thousand new patients are admitted yearly. The fee for the course is one hundred dollars per month. Those interested may address Dr. James Justus, IV Ferencz Jozsef Rakpart 26, Budapest.

THE PACIFIC PHYSIOTHERAPY ASSOCIATION

The Pacific Physiotherapy Association will hold its annual meeting at the Alexandria Hotel, Los Angeles, California, June 21 and 22. The program is now being assembled, and will include papers from a number of men of international reputation. The guests of honor include Dr. Burton B. Grover, president American Electrotherapeutic Association; Dr. Edwin Kieme, president Western Association of Physical Therapy; Dr. A. David Willmoth, Louisville, and Dr. J. E. G. Waddington, Detroit. Information and program may be obtained of the secretary, Dr. Charles Wood Fassett, 506 Detwiler building, Los Angeles, California.

DR. WILLIAM JEPSON OF SIOUX CITY RE-APPOINTED MEMBER OF THE STATE BOARD OF MEDICAL EXAMINERS

Governor John Hammill, has re-appointed Dr. William Jepson as a member of the State Board of Medical Examiners for a term of three years, commencing July 1, 1929. Dr. Jepson had been recommended for appointment by the Iowa State Medical Society.

Membership on the Board of Medical Examiners is held at considerable personal sacrifice. It serves, however, as an opportunity of rendering the most helpful service. The medical profession in the State of Iowa are to be congratulated that they are to continue to have the high grade service which Dr. Jepson always renders.

IOWA HEART ASSOCIATION

The fifth annual meeting of the Iowa Heart Association was held at the Fort Des Moines Hotel, Des Moines, Friday noon, May 10, 1929. Dr. Merrill M. Myers, president, presided.

The following officers were elected: Dr. Merrill M. Myers, Des Moines, president; Dr. Fred Smith, Iowa City, vice-president; T. J. Edmonds, Des Moines, secretary. Executive committee: Dr. Walter L. Bierring, Des Moines; Dr. V. L. Treynor, Council Bluffs; Dr. L. R. Woodward, Mason City; Dr. B. C. Hamilton, Jefferson; Dr. R. M. Larimer, Sioux City. Ex-officio: Dr. Henry Albert, Des Moines; Dr. John H. Peck, Des Moines.

The speakers were Dr. Hugh McCulloch of St. Louis, associate professor of pediatrics, Washington University Medical School, on "Rheumatic Fever as an Allergic Disease"; Dr. Lee Hill, Des Moines, and Dr. Walter L. Bierring, Des Moines.

The attendance at the luncheon was the largest in the history of the association, sixty-seven persons being present.

THE THOMAS WILLIAM SALMON MEMORIAL

Announcement has just been made of the establishment of a memorial honoring Thomas William Salmon, formerly professor of psychiatry of Columbia University and the medical director of the National Committee for Mental Hygiene. This memorial is created to provide for a wider dissemination of knowledge pertaining to mental hygiene and insanity. A one hundred thousand dollar fund is to be placed in the hands of the New York Academy of Medicine for this purpose. It is proposed that a series of lectures will be given in various cities of the United States under the auspices of accredited medical or educational organizations. It is hoped that by this means recent advances in mental hygiene and in insanity may be quickly disseminated over a wide territory and the laity enrolled in a campaign for the control and prevention of mental and nervous diseases.

The administration of this memorial fund by the New York Academy of Medicine provides a most desirable condition, since the academy will provide a special psychiatric committee to select lecturers, approve topics to be presented, determine the expense to be incurred, and select the places where the lectures will be given. All printed material will be edited and distributed by the committee.

Inquiries relative to this important work may be directed to the Thomas William Salmon Memorial, Inc., No. 370 Seventh avenue, New York City.

DERMATOLOGICAL CLINIC OF BUDAPEST, HUNGARY

Announcement has just been made that Dr. James Justus, the celebrated dermatologist and syphilologist of Budapest will conduct clinics in English, French, German, and Hungarian at the Jewish Hospital in Budapest. Courses of instruction will last

Woman's Auxiliary of the Iowa State Medical Society Organized

Another step in conforming with the standards set by the American Medical Association and sister state societies was taken when the House of Delegates on Friday, May 10th, voted permission to the wives and daughters of members of the Iowa State Medical Society to organize a woman's auxiliary.

At the women's luncheon held Wednesday noon of the annual session, Mrs. George H. Hoxie, Kansas City, first vice-president of the Woman's Auxiliary of the American Medical Association, spoke upon the advantages of organizing; and she also held a later conference with those especially interested. At a called meeting on Thursday the organization was effected and formal request made to the House of Delegates for permission to use the title, "Woman's Auxiliary of the Iowa State Medical Society". The officers are: President, Mrs. M. N. Voldeng, Woodward; president-elect, Mrs. E. L. Bower, Guthrie Center; vice-president, Mrs. P. B. McLaughlin, Sioux City; second vice-president, Mrs. David H. Hopkins, Glidden; third vice-president, Mrs. John H. Peck, Des Moines; secretary, Mrs. J. G. Murray, Cedar Rapids; treasurer, Mrs. Channing G. Smith, Granger; parliamentarian, Mrs. F. E. V. Shore, Des Moines.

Local Auxiliaries

Several local women's auxiliaries already exist in different parts of the state. In Sioux City there is a Medical Dames organization, the Twin Lakes Society has a woman's auxiliary, and at its last meeting the Dallas-Guthrie Society voted the women authority to organize an official auxiliary. The week preceding the annual session the wives of Des Moines physicians organized and elected the following officers: President, Mrs. F. E. V. Shore; vice-president, Mrs. Frank Ely; secretary, Mrs. George McCreight; treasurer, Mrs. John Connell; organization committee, Mrs. Fred Throckmorton.

The purpose in forming a state auxiliary was to allow the above mentioned, as well as any other local auxiliary, to combine in a state unit and through it secure formal affiliation with the auxiliary of the American Medical Association.

MESSAGE FROM AUXILIARY PRESIDENT

[Editor's Note: The newly elected president of the Woman's Auxiliary of the Iowa State Medical Society was asked to give us her personal ideas about the organization, and Mrs. Voldeng responded with the following message to members, their wives and daughters.]

It was our pleasure to attend the American Medical Association meeting in Minneapolis last June and there attend our first meeting of the Woman's Auxiliary to the American Medical Association. We

have attended medical meetings for years and years with Friend Husband, but never before had we sat in convention hall with the wives of medics—just wives, daughters and sisters of doctors. Here was something new, women from all over the United States, hundreds of them banded together—wives of the small town doctors rubbing elbows with the wives of city doctors, here were the newly-weds with the same right to voice opinion as the older women who have been the special leaders at all of the medical meetings, wives who brought their maids and chauffeurs working on committees with wives who drive their own cars and do their own work. Here we were forming acquaintanceships with women all over the United States, forming friendships that had not been made in the many, many years of attendance at the American Medical Association meetings, a democratic organization. As we learned of the successful working of this body of splendid women we commenced to ask ourselves the question, if this organization is helpful to the women and their doctor husbands in other states why is it not the thing for Iowa women? Doctors in other states have no more loyal, enthusiastic, helpful wives than the medics in Iowa. And so when the Iowa women were asked by the National organization to band themselves into an auxiliary to the State Medical Society, the subject was discussed pro and con in a new light and with a new interest, and on May 9, 1929, an organization was perfected.

While the object of the auxiliary may be to extend the aims of the medical profession through the women members of families of physicians, to cooperate with other organizations which look to advancement in health education, and to further health activities and to maintain a Speakers Bureau, yet we honestly believe the real object is to promote acquaintanceship among the doctors' families, that local unity and harmony may be increased. The auxiliary may be an asset to the state, district and county medical societies assisting in the entertainment and creating the happy, wholesome atmosphere and the feeling of good fellowship that will make for better service and happier lives.

And so, may our slogan be: Every wife, mother, daughter, sister, widow of a physician, a member of the auxiliary and an organized woman's auxiliary for every county medical society.

Mrs. M. Nelson Voldeng, Woodward, Iowa.

President of the Woman's Auxiliary of the Iowa State Medical Society.

(Note: Those desiring to organize county auxiliaries should observe that the first step is to obtain permission from the county society. Further information may be secured from officers of the Woman's State Auxiliary.)

DR. E. M. HOUGHTON

Following a noteworthy service of thirty-four years with the house of Parke, Davis & Co., Dr. E. M. Houghton retired from active duty on May 1, but will continue as a member of the company's executive staff, with the title of consulting director of the Research and Biological Laboratories.

Dr. Houghton was graduated from the University of Michigan with the degree of pharmaceutical chemist in 1893, and received the degree of Doctor of Medicine from the same institution in 1895. He was assistant in pharmacology at the University from 1894 to 1895, immediately prior to joining Parke, Davis & Co.; lecturer in pharmacology at the Detroit College of Medicine and Surgery from 1897 to 1902; and was also a special lecturer at the University of Michigan for several years after that. He has been for several years chairman of the Biological Section of the American Drug Manufacturers' Association. In 1908 he was appointed by the United States Department of State as delegate to the International Congress of Applied Chemistry held in London.

In scientific circles Dr. Houghton is widely known as a pioneer in the field of biological standardization, having started this work at the University of Michigan in 1894, and continuing at the Parke-Davis Biological Research Laboratories, which was the first institution of its kind in America.

STATE HEALTH COMMISSIONER'S PAGE

(Continued from page 290)

Prevention of serum sickness: Something can be done to prevent serum sickness or lessen its severity. Serum sickness may be expected in a large proportion of persons to whom serum has been administered before or who have a hypersensitive predisposition as evidenced by symptoms of horse asthma. Since the serum sickness usually starts about seven or eight days after the administration of the serum it is well to begin on the sixth day after its administration (or sooner if it seems indicated) with the calcium lactate and aspirin portions of the treatment for serum sickness.

Prevention of anaphylactic shock: The patient should be carefully questioned as to possible sensitization to horse serum; i. e., previous "shots" to prevent tetanus, diphtheria, etc., or to check hemorrhage. Asthmatic attacks due to horse dander constitute another evidence of sensitization to horse serum. If the history indicates sensitization to horse serum, the patient should be desensitized before the dose of serum is administered.

Desensitization is brought about by small but increasing doses of the serum at intervals of fifteen minutes—the whole procedure taking an hour and a half. The first three doses are with the antitoxin (or other serum used) diluted with ten parts of sterile normal salt solution. The doses are as follows:

1. One-fourth c.c. of diluted serum.

2. One-half c.c. of diluted serum.
3. 0.1 c.c. of straight (undiluted) serum.
4. 0.5 c.c. of straight (undiluted) serum.
5. One c.c. of straight (undiluted) serum.

Then wait one-half hour and give the full therapeutic dose.

In those rare cases in which anaphylactic shock does occur with symptoms of respiratory difficulty; rapid, thready pulse; vomiting; loss of consciousness, etc.; the patient should receive 10 minims of 1:1000 solution of adrenalin by deep hypo at once. Atropine gr. 1/100 or 1/150 by hypo is often also helpful. After this the patient should receive the usual remedies for shock, such as heat to the extremities, black coffee, whiskey, and normal saline by hypodermoclysis if the shock symptoms are prolonged.

Annual License Renewals Now Past Due

As required, by law, the department sent a notice regarding the annual renewal fee of \$1, to every physician licensed by the state, and whose address is known to the department. These notices were sent out May 11th. If you did not receive a notice and have not yet paid your renewal fee for next year, please write us at once. The fee is supposed to be paid before May 31st. Your license to practice medicine in Iowa under last year's renewal, expires June 30th. Soon after the 1st of July, the department will supply the proper federal officers with the names of all physicians who have renewed their licenses and are accordingly legally, in good standing. The federal agents will not issue a permit to prescribe alcoholic liquors nor a license to dispense narcotics to any physician not in good standing. Failure to be in good standing is also of importance in connection with insurance, medico-legal, and other problems. In addition—the Board of Medical Examiners may require any physician, who has not kept his renewals up-to-date, to take another examination before being reinstated. Please make certain that you have your 1930 renewal card.

**PROPHYLACTIC DOSES OF SCARLET FEVER
WITHDRAWN FROM MARKET**

Eli Lilly & Company are to be commended for withdrawing from the market the prophylactic dose of scarlet fever antitoxin. The State Department of Health has advised against its use for more than a year. This in no wise discredits the value of the antitoxin for the treatment of scarlet fever nor the toxin for the prevention of the disease. The reason for advising against the use of antitoxin for prophylaxis are first, that the protection afforded by the antitoxin lasts only about ten to several weeks and often does more harm than good in that it gives a false sense of security and is often used with the idea of taking the place of scarlet fever toxin which induces an active and more enduring immunity. Second, because of the possibility of serum reactions and the induction of a hypersensitive condition, it is better not to use any serum unless there is a reasonably clear indication for such.

SOCIETY PROCEEDINGS

Cerro Gordo County

The Cerro Gordo Medical Society went to Charles City twenty-five strong and put on a program for Floyd county at the Country Club. The following program was put on by our members.

1. Angina Agranulocytosis—Dr. S. A. O'Brien.
2. Clinical Diagnosis of Heart Disease—Dr. E. L. Wurtzer.
3. Pre-operative Treatment of Goitre—Dr. T. A. Burke.
4. Malta Fever—Post Mortem Report—Dr. L. R. Woodward.
5. Case Report of Megaloureters—Dr. N. C. Stam.

6. Amoebiasis—Case Report—Dr. C. L. Marston.
Every member enjoyed the meeting very much, especially the dinner and hospitality of the Floyd county members. It is a splendid way to get acquainted and all adjoining county societies should have more of these meetings.

T. E. Davidson, M.D., Secretary.

Clinton County

Following a 6 o'clock dinner served at the Wapipinicon Club the Clinton County Medical Society held their scientific meeting. Drs. A. C. Davis and Lawrence M. Randall, guests of the society from the Mayo Clinic, Rochester, Minnesota, furnished the program.

Des Moines County

A large delegation of physicians from Wapello, Muscatine, Lee, and adjoining counties, attended the Des Moines County Medical meeting which was held in Burlington, Tuesday, May 21st. The meeting was held at the Hotel Burlington and began at 4 p. m., at which time two papers were presented: Ambulant Management of Peptic Ulcer, F. W. Gordan, M.D., St. Louis, Missouri; Kidney Fixation for the Relief of Ureteral Kinks Associated with Ptosis, F. E. Burford, M.D., St. Louis, Missouri.

Following a 6:30 dinner at the hotel two more papers were presented: The Management of Right Occipito-Posterior Presentations, L. M. Randall, M.D., Rochester, Minnesota; The Etiologic and Pathologic Approach to the Diagnosis of Heart Disease, A. R. Barnes, M.D., Rochester, Minnesota.

Fayette County

The Fayette County Medical Society met May 20th, at the Home Cafe in Oelwein. After a 6:30 dinner the following program was presented: Physiology of Arteriosclerosis, C. C. Hall, M.D., May-

nard; Case Reports, Drs. O'Keefe and Preece, Waterloo; Reports of Medical Legal Work in State Society, C. D. Mercer, M.D., West Union.

Johnson County

Wednesday, May 1st, the Johnson County Medical Society met at the University Hospital and the following program was presented: Case presentation, Drs. J. B. and J. C. Kessler; Autopsy Demonstration, two cases of coronary occlusion, G. H. Hansmann, M.D., Case presentation, H. L. Beye, M.D.

Linn County Annual Meeting

Friday, May 10th, the Linn County Medical Society met at the Montrose Hotel at 8 p. m. William Englebach, M.D., of St. Louis presented a paper on Endocrines. After the buffet luncheon the election of officers was held. The results were as follows:

A. M. A. Annual Session Portland, July 8-12

* * *

Official Call

*To the Officers, Fellows and Members of the
American Medical Association:*

The eightieth annual session of the American Medical Association will be held in Portland, Oregon, from Monday, July the eighth, to Friday, July the twelfth, Nineteen hundred and twenty-nine.

The House of Delegates will convene on Monday, July the eighth.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, July the ninth, at 8:30 P. M.

The various sections of the Scientific Assembly will meet Wednesday, July the tenth, at 9 A. M. and at 2 P. M. and subsequently according to their respective programs.

*William S. Thayer, President
Frederick C. Warnshuis*

Speaker, House of Delegates

Attest:

Olin West, Secretary

Chicago, Illinois, April the fifteenth

Dr. Charles Krause, president; Dr. Arthur E. Crew, vice-president; Dr. B. F. Wolverton, secretary; Dr. Emma J. Neal, treasurer; Drs. Tom Suchomel and J. K. Von Lackum, delegates, and Drs. John Redmond and H. L. Van Winkle, alternates.

Marion County

The members of the Marion County Medical Society were guests of the U. S. Veterans' Hospital Medical Society, Friday, May 24th, at the Government Hospital at Knoxville. The following scientific program was presented: History of the Care and Treatment of the Insane, Ward W. Hedlund, M.D.; Paresis, Description of Disorder and Presentation of Cases, M. D. Barship, M.D.; Katatonia in Dementia Praecox with Clinical Cases, Dudley T. Dawson, M.D.; Mental Deficiency with Cases, C. M. Schiek, M.D.; Veterans' Bureau Methods in Determining the Degree of Disability as a Basis for Awarding Compensation, D. D. Campbell, M.D.; Paranoia and Paranoid Praecox, R. G. Eaton, M.D.

Marshall County

Tuesday, May 7th, Marshall County Medical Society met at the Hotel Tall Corn in Marshalltown. Andrew H. Woods, M.D., Iowa City, was the

speaker of the evening. His subject was, Principles of Psychiatry of Every Day Use to the General Practitioner.

Monroe County

Thursday, April 18th, the Monroe County Medical Society met at the Commercial Club rooms in Albia. James R. Guthrie, M.D., Dubuque, was the speaker of the evening and presented, Preventive Medicine, with special reference to the prevention and cure of cancer.

Page County

Friday, April 26th, the Page County Medical Society met in Clarinda to hold its regular meeting in connection with the Chest Clinic conducted by Drs. Peck and Myers of Des Moines. The Clinic was held at the Clarinda High School and in the evening following a 6:30 dinner at the Armory Grill the following program was presented: Earl C. Sage, M.D., of the University of Nebraska Medical College, Omaha, Prenatal and Post Partum Care; G. V. Caughlan, M.D., Council Bluffs, The Management of Pyelitis.

Polk County

Tuesday, April 30th, the Polk County Medical Society met in the Oak Room of the Hotel Fort Des Moines to listen to the following program: Diagnosis and Treatment of Myxedema, Harry A. Collins, M.D.; Late Cardiac Manifestations in Toxic Goitre, C. B. Luginbuhl, M.D.; Discussion of the Tuberculosis Problem in Polk County, A. D. McKinley, M.D.; Mary Stark, R. N.; Mr. Ralph Reed, and R. H. Knable, M.D.

The Polk County Medical Society met for its regular May meeting at the Fort Des Moines Hotel, May 28, 1929.

The meeting was called to order at 8 p. m. by the president, Dr. C. E. Ruth.

The minutes of the preceding meeting were read and approved.

Program—Some Phases of Plastic Surgery, Earl C. Padgett, M.D. Epidemic Meningitis, Paul M. Stookey, M.D., B. Landis Elliott, M.D., Frank Teachenor, M.D.

This was an exchange program with the Jackson County Society of Kansas City, Missouri. The papers were all very interesting and enlightening.

The committee report on the P. T. A. "Summer Roundup" was read and a motion was made and unanimously carried that the society lend its approval to this program and each of the members lend their support as much as possible.

L. K. Meredith, M.D., Sec'y and Treas.

Scott County

Scott County Medical Society met Tuesday evening, May 14th, at Mercy Hospital, and after the

Iowa Special to the A. M. A.

A special train to take Iowa physicians to Portland has been arranged by Council Chairman Channing G. Smith. Three routes from different parts of Iowa will converge at Minneapolis:

1. Leave Des Moines July 5 11:25 p. m.
2. Leave Davenport July 5 8:55 p. m.
3. Leave Manilla July 6 5:25 a. m.

The special train schedule follows:

Leave St. Paul.....	July 6 8:10 a. m.
Arrive Minneapolis.....	July 6 8:40 a. m.
Leave Minneapolis.....	July 6 8:55 a. m.
Arrive & leave Aberdeen.....	July 6 3:50 p. m.
Arrive Spokane.....	July 7 10:45 p. m.
Leave Spokane.....	July 7 11:00 p. m.
Arrive Seattle.....	July 8 10:00 a. m.

Those desiring to go direct to Portland can leave Seattle at 11:45 a. m. arriving in Portland at 4:30 p. m. on July 8. Those desiring this schedule should so state as it will reduce the rate on sleeping car accommodations.

Those taking the Mount Rainier National Park trip, will arrive in Portland at 6:15 a. m., July 9, in plenty of time for the first session. (See official A. M. A. program on opposite page.)

business meeting, we had a very interesting clinical session with C. R. G. Forrester, M.D., of Chicago. Dr. Forrester demonstrated his method of local anesthesia in reduction of fractures, and gave a program to which the men attended very closely. This method as practiced by Dr. Forrester was learned by him in Vienna last year.

John I. Marker, M.D., Secretary.

Story County Annual Meeting

At the annual meeting of the Story County Medical Society, Verl A. Ruth, M.D., Iowa State College, Ames, presented a paper on Minor Surgery and Bush Houston, M.D., Nevada, presented a paper on Acute Appendicitis. Following the scientific program the business session was held at which the following officers were elected: Dr. Earl Rice of Ames, president, Dr. S. B. Goodenow of Colo, vice-president, and Dr. B. G. Dyer of Ames, was named secretary-treasurer for the eleventh successive year.

Tama County

Thursday, May 2d, the Tama County Medical Society met in Garwin for a 6:30 p. m. dinner after which M. L. Allen, M.D., Tama, presented a scientific talk, Rabies. P. L. Parsons, M.D., of Traer gave the society a short talk on his trip through the South.

Washington County

Tuesday, May 7th, the Washington County Medical Society met at 8 p. m. and W. L. Alcorn, M.D., presented a paper on Leukemias.

Webster County

On Tuesday evening, May 21st, the Webster County Medical Society met at St. Joseph's Mercy Hospital at 8:30 p. m. H. W. Scott, M.D., Iowa City, gave a very interesting and profitable paper on, Abdominal X-ray Shadows. The paper was well illustrated by the use of many x-ray films. Following the paper there was a short discussion before the meeting adjourned. This was the last meeting until fall.

John C. Shrader, M.D., Secretary.

The Four Counties District Medical Society

Thursday, May 16th, the Four Counties District Medical Society held their second annual meeting at the Louis Hotel in Cherokee. This society includes Buena Vista, Ida, Cherokee and Plymouth counties. The scientific program was as follows: Wounds with Special Reference to Localization of Foreign Bodies, A. G. Gran, M.D., Storm Lake; Acute Oedematous Laryngitis, M. F. Joynt, M.D., LeMars; Post Mortem Care, C. G. Bretthauer, M.D.; Holstein; and Ectopic Gestation, C. H. Johnson, M.D., Cherokee.

PERSONAL MENTION

Dr. Edward J. Hotz, who comes to Parkersburg from Minnesota, is a graduate of the College of Medicine of the State University of Iowa. Dr. Hotz received his training in New York and before going to Minnesota taught surgery and pathology at Creighton Medical College in Omaha.

Dr. L. E. Eslick of Rockwell City has received notice from the war department that he will be given charge of organizing the medical department of the Fort Snelling Military Training Camp.

Dr. Tressa Moran, Iowa City, pathologist, radiologist and laboratory technician has accepted a place on the staff of Allen Memorial Hospital and will supervise all laboratory and x-ray work.

Dr. R. P. Carney, Davenport, attended the recent Inter-State Post-Graduate Medical Association meeting in Boston, Massachusetts.

Dr. L. J. Townsend, Sioux City physician and surgeon, has relinquished his practice there and moved to Belle Fourche, South Dakota, to devote his entire time to the operation of a large ranch of which he is the owner.

Dr. E. C. Junger, physician and surgeon of Soldier spoke in Christian Churches at Cherokee, Cleghorn and Marcus, Sunday, May 5, on the subject of "Keeping Fit".

Dr. Donald Macrae, Jr., of Council Bluffs, has been appointed honorary lecturer in surgery at the medical school of Iowa State University. He gave his first lecture Monday, May 6.

OBITUARIES

Dr. Thomas Edwin Powers, Clarinda, Iowa

Dr. Thomas Edwin Powers was born in Clarinda, November 29, 1857; received his preliminary education in the Clarinda schools and graduated from the Clarinda High School in one of its earliest classes.

Dr. Powers received his medical education at the Medical School of University of Iowa and Missouri Medical College—now Washington University, St. Louis—from which school he graduated March 4, 1881; commenced practice in St. Louis, but soon returned to Clarinda, where he lived and practiced to the end of his life. From 1891 to 1893 he was assistant superintendent of Clarinda Insane Hospital. On two occasions he visited Germany for medical observation and study.

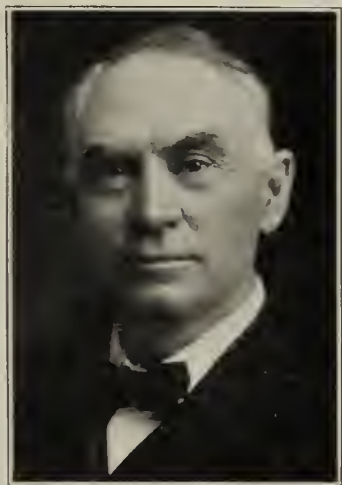
As evidence of his usefulness in civic affairs, he was elected to represent his county in the legislature in 1922 and re-elected in 1924.

Dr. Powers was married to Miss Anna Peterson, then a teacher in the Clarinda schools, who survives him.

Dr. T. E. Powers, a leading and influential member of the medical professional in Iowa for many years, died at his home in Clarinda, February 14, 1929.



It had been the privilege of the writer to know Dr. Powers intimately and to be associated with him in the business of the State Medical Society and in other matters of a civic and social character. For many years after the re-organization of the National and State Societies there was much confusion until the machinery of the Society had become fully adjusted. Dr. Powers as a delegate from his county



DR. THOMAS EDWIN POWERS

society, in his quiet way, exercised a great influence in quieting the disturbed elements. The quiet smile disarmed personal feeling and bitterness. It soon became recognized that Dr. Powers' contentions and his objections to a disorganizing policy were sound, and finally when the Society had reached a degree of development to function a board of trustees to guard the property and belongings of the State Medical Society, Dr. Powers was appointed one of the board and served for many years. It was a time when members of the executive committees were invited to meet with the board. Dr. Powers rarely missed these meetings and a winning smile rarely left his face, even when opposing a measure that he believed undesirable and objectionable. Dr. Powers continued to serve on the board until he was elected president of the State Medical Society.

Few men have rendered greater service to the State Society than Dr. Powers. His prompt attention to every duty assigned to him and the judicious manner in which the duty was performed, inspired faith. It was one of the pleasures of attending the meetings of the State Society to know that Dr. Powers of Clarinda would be there. He will be sadly missed by the few of his generation.

—D. S. Fairchild, M.D.

Resolutions on the Death of Dr. E. R. Smith

Whereas; Dr. E. R. Smith of Wheatland, Wyoming, a former member of the Tama County Medical Society, and an active member in its early organization and history, has been called, while still in active

practice, to that eternal rest, following over fifty years of active and sacrificing service in his community.

And because of the esteem and respect the profession and community entertain for him, one of that fast lessening circle of old and trusted family physicians and counselors, who in time of sickness and distress, in foul weather or fair, was ever ready to respond to what ever demands were made upon him, with a spirit of cheerfulness and optimism, which brought hope and gladness to those with whom he came in contact. We extend to the bereaved family our sincere sympathy and for their consolation we recommend the remembrance of his many years of self-sacrificing service to his fellow man, his patience, kindness, optimism and nobility of character will remain a noble heritage and example to follow.

Be it further resolved; that our secretary inscribe these resolutions upon the records of this Society, a copy sent to the family and also one to the State Medical Journal for publication.

Committee:

A. A. Pace,
W. L. Allen,
W. E. Carpenter.



NEW AND NON-OFFICIAL REMEDIES

Abbott Laboratories:

Bismarsen.

Ciba Co., Inc.:

Digitoline—Ciba.

Digitoline—Ciba Liquid.

Ampules Digitoline—Ciba Solution, 1 c.c.

Ampules Digitoline—Ciba Solution, 5 c.c.

Tablets Digitoline—Ciba.

Parke, Davis & Co.:

Diphtheria Toxoid.

G. D. Searle & Co.:

Solution Bismuth Sodium Tartrate—Searle, 1.5 per cent.

Sulpharsphenamine—Searle.

Sulpharsphenamine—Searle, 0.4 Gm. Ampules.

Sulpharsphenamine—Searle, 0.5 Gm. Ampules.

Sulpharsphenamine—Searle, 0.6 Gm. Ampules.

E. R. Squibb & Sons

Insulin—Squibb, 80 units, 10 c.c.

Winthrop Chemical Co., Inc.:

Tablets Theocin Soluble, 2½ grains.

Ciba Co., Inc.:

Isarol—Ciba.

Deshell Laboratories:

Petrolagar with Milk of Magnesia.

G. D. Searle & Co.:

Sulpharsphenamine—Searle, 0.1 Gm. Ampules.

Sulpharsphenamine—Searle, 0.2 Gm. Ampules.

Sulpharsphenamine—Searle, 0.3 Gm. Ampules.

Swan-Myers Co.:

Canada Blue Grass Concentrated Extract—Swan-Myers.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- MEDICAL CLINICS OF NORTH AMERICA**—Vol. 12, No. 5—Southern Interurban Clinical Club Number—Per Clinic Year, July, 1928 to May, 1929—Octavo of 306 Pages with 40 Illustrations—Paper, \$12.00; Cloth, \$16.00 Net—Philadelphia and London—W. B. Saunders Company, March, 1929.
- TUBERCULOSIS AND HOW TO COMBAT IT**—By Francis M. Pattenger, M.D.—C. V. Mosby Co., St. Louis—Price \$2.00.
- YOUTHFUL OLD AGE**—By Walter M. Gallichan—The MacMillan Co., New York—Price \$2.50.
- LOCAL ANESTHESIA**—By Arthur E. Hertzler, M.D.—C. V. Mosby Co., St. Louis—Price \$6.00.
- INJECTION TREATMENT OF INTERNAL HEMORRHOIDS**—By Marion C. Pruitt, M.D.—C. V. Mosby Co., St. Louis—Price \$3.00.
- SAFEGUARDED THYROIDECTOMY AND THYROID SURGERY**—By Charles Conrad Miller, M.D.—F. A. Davis Co., Philadelphia.
- DIAGNOSTIC METHODS IN INTERNAL MEDICINE**—By Samuel A. Loewenberg, M.D.—F. A. Davis Co., Philadelphia.
- TEXT BOOK OF CLINICAL NEUROLOGY**—By M. Neustaedter, M.D.—F. A. Davis Co., Philadelphia.
- PHYSICAL THERAPEUTIC TECHNIQUE**—By Frank Butler Granger, M.D.—W. B. Saunders Co., Philadelphia—Price \$6.50.
- CLINICAL ELECTROCARDIOGRAMS**—By Frederick A. Willius, M.D.—W. B. Saunders Co., Philadelphia—Price \$8.00.
- PHYSIOLOGY OF BONE**—R. Leriche and A. Policard—Translated by Sherwood Moore, M.D., and J. Albert Key, M.D.—C. V. Mosby Co., St. Louis—Price \$5.00.
- EDEMA AND ITS TREATMENT**—By Herman Elwyn, M.D.—The Macmillan Co., New York, 1929—Price, \$2.50.
- THE TONSILS AND ADENOIDS AND THEIR DISEASES: INCLUDING THE PART THEY PLAY IN SEPTIC DISEASES**—By Irwin Moore, M.B., C.M.—The C. V. Mosby Co., St. Louis, 1928—Price, \$6.50.
- DISEASES OF THE THYROID GLAND**—By Arthur E. Hertzler, M.D.—Second Edition, Entirely Rewritten—The C. V. Mosby Co., St. Louis, 1929—Price \$7.50.
- DISEASES AND DEFORMITIES OF THE SPINE AND THORAX**—By Arthur Steindler, M.D., F.A.C.S.—With 76 Plates—The C. V. Mosby Co., St. Louis, 1929—Price, \$12.50.
- SURGICAL PATHOLOGY**—By William Boyd, M.D.—Second Edition, Revised and Reset—Octavo of 933 Pages, with 474 Illustrations and 15 Colored Plates—Philadelphia and London: W. B. Saunders Company, March, 1929—Cloth, \$11 Net.
- DISEASES OF THE NOSE, THROAT AND EAR**—By E. B. Gleason, M.D., LL.D.—Sixth Edition, Thoroughly Revised—12mo. of 617 Pages, with 262 Illustrations—Philadelphia and London: W. B. Saunders Company, 1929—Cloth, 4.50 Net.

BOOK REVIEWS

INTERNATIONAL CLINICS

Volume I; 39th Series, 1929. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of Charles H. Mayo, M.D., Rochester, Minnesota. Published by J. B. Lippincott Company, Philadelphia and London, 1929.

There are a number of outstanding papers in this volume. Perhaps, however, the ones of most general interest will be found under the heading of "Diagnosis and Treatment". Here one finds a discussion of the Preventive Treatment of Poliomy-

elitis" by Simon Flexner, M.D., "Pellegra of Today" by Stewart R. Roberts, M.D., and "The Diagnosis and Treatment of Latent Amoebic Infection" by Charles F. Craig, M.D., together with a number of papers on less frequently observed conditions.

The three opening papers of the volume are taken from the clinic of Dr. Lewellys F. Barker, M.D. of Baltimore, and in his customarily pleasing manner he has discussed in an unusual fashion many usual conditions found in a large clinic.

The closing chapter of the book entitled "Progress of Medicine in 1928" by James F. Coupal, M.D.,

of Washington, D. C., presents a most carefully executed summary of the year's work. Every student in medicine can profit by a review of this particular article.

THE MEDICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 12, Number 4. (Philadelphia Number, January, 1929.) Octavo of 297 Pages with 30 Illustrations. Per Clinic Year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London: W. B. Saunders Company, 1929.

The Philadelphia number of the Clinics is rather outstanding in the fact that the clinics reported are of very general interest. It is difficult to state which of the clinics would prove of greater value to our readers, but the writer was particularly impressed with those of Dr. Thomas McCrae—The Early Diagnosis of Empyema in Lobar Pneumonia; Dr. David Riesman—Diseases of the Coronary Arteries; and Dr. O. H. Perry Pepper—A Review of Our Knowledge of the Anemias of Pregnancy.

This volume maintains the usual high standard previously noted in the Philadelphia number of this publication.

HISTORY OF MEDICINE

With Medical Chronology, Suggestions for Study and Bibliographic Data by Fielding H. Garrison, M.D., Lt.-Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington D. C.; 4th Edition, Revised and Enlarged. Octavo of 996 Pages, with 286 Portraits and Other Illustrations. W. B. Saunders Company, Philadelphia and London, 1929. Cloth, \$12.00 Net.

It is indeed noteworthy that American medical literature has been enriched by the preparation of a general history of medicine by a staff officer in the United States Army. This present fourth edition brings up-to-date one of the most brilliant contributions to historical medicine in any language of this decade.

Colonel Garrison has introduced his monograph with a discussion of the earliest known medical writings, and has traced the development of the science by careful steps through Persian, Hebrew, Chinese, and Japanese literature, introducing a discussion of their chief contributions as a foundation for Greek and Roman medicine, which in many texts forms the beginning of such a chronicle. His divisions of medical history since this period are particularly noteworthy, since they follow the logical divisions created by epochal discoveries. His analysis of the worthwhile events in each group reveals the master's touch, and his graphic portrayal of personalities exhibits a rare talent. The appendices of this unique work furnish the reader with a

summary of the descriptive material in the foregoing chapters and enable the student to determine whether or not he has grasped essential facts presented in the text. Certainly any physician wishing to familiarize himself with the development of our science should provide himself with a copy of Garrison's history for his study-table.

IMPERATIVE TRAUMATIC SURGERY

With Special Reference to Aftercare and Prognosis. By C. R. G. Forrester, M.D., F.A.C.S., Consultant, Teaching Staff, Post-Graduate School, Laboratory of Surgical Technique, Chicago, Etc.; 598 Illustrations; 464 pp. \$10.00. Paul B. Hoeber, Inc., New York, 1929.

This work can be recommended most highly to all surgeons who do any industrial or traumatic surgery. There is no better way to present the methods of the author than to include a portion of the preface.

"The author has for the past twenty-six years, confined his practice entirely to traumatic surgery. He spent two years' service in the World War, for one year of which period he was associated with Sir Robert Jones and Mr. T. R. W. Armour of Liverpool in the teaching of bone and peripheral nerve surgery. The book, therefore, is a presentation of personal experiences; facts, and not theories, are presented; and only those facts in which it has been possible to check up the end results. Special attention has been paid to the immediate treatment and after care of traumatic conditions, because the author has felt the lack of this in other treatises on the subject.

Prognosis in this type of injuries has been given particular consideration. This is a feature the author feels to be of great importance to the physician and to all agencies connected with workingmen's compensation. Each chapter presents charts and other material aimed to assist the reader in arriving at a better knowledge of prognosis. Clarity and completeness, without verbosity, have been the author's aim.

"An exceptionally large number of illustrations have been prepared, many of them actual drawings of cases at the time of operation, in order that the visual presentation of methods may not only amplify but clarify and at the same time condense, the actual text. The text is not written with any idea that the methods presented are the only way in which various conditions can be treated, but to convey the methods which the author uses successfully in his own practice. All of the material included in the book has been taken from his own organization. It will be noticeable to the reader that many different methods which are represented in other texts are not shown, first, because this would only mean repetition; secondly, because the aim has been to present methods which have proven most beneficial in the author's hands."

The book is quite refreshing in that his methods of treating various fractures, dislocations and nerve injuries are the old methods with due credit given to those to whom credit is due, a frank discussion of his own methods and the reason for using them.

The book will be invaluable to all industrial surgeons.

F. W. F.

THE INJECTION TREATMENT OF HEMORRHOIDS

By Dr. Charles Conrad Miller. Modern Surgery Publications, Chicago, 1929; 124 Pages, with 20 Illustrations.

This small book of 124 pages is largely a compilation of the current literature, together with the author's experience in the treatment of hemorrhoids by the injection method. He properly stresses throughout the volume that this method is useful only in selected cases, that it is not useful in external hemorrhoids, and that its technique, while apparently simple, is one in which skill is acquired only with practice. The method is not advocated as a "cure-all", and the author has included certain case reports in the closing chapter which indicate the difficulties and complications which may arise in the treatment. Numerous well executed illustrations are included in the volume.

TECHNIQUE OF CONTRACEPTION

The Principle and Practice of Anti-Conceptional Methods. By James F. Cooper, M.D. Day-Nichols, Inc., 15 East 40th St., New York City.

This volume has been prepared by Dr. James F. Cooper, medical director of the Birth Control Clinical Research Bureau of the American Birth Control League, and presents in a scientific fashion the observations of, and conclusions drawn from, the experiences of this clinic.

He has presented in the opening chapters a number of statements from men in public affairs, both physicians and laymen, reflecting their attitude towards the work which the league is undertaking. It would seem that these testimonials might well be omitted from this volume, since they are, at best, highly controversial, opinionated, and add nothing to the scientific aspect of the subject discussed. In the next few chapters he has presented a description of the various methods of contraception now practiced, critically discussing the weaknesses and advantages of each method. These discussions are unusually comprehensive and are based upon statistical evidence. In the closing chapters of the volume, the organization and administration of birth control clinics are freely discussed, together with the results which have been obtained in established clinics throughout the world. The final chapter of the book is devoted to a review of the state laws in all states relative to the dissemination of birth control information and the practice of eugenical sterilization.

This volume is one of the few which has come to our attention in which a straight-forward scientific discussion of this important but much tabooed subject is presented without coloring or propaganda. The volume is recommended to those physicians desiring a fuller knowledge of this subject.

THE CLIMACTERIC (The Critical Age)

By Gregorio Maranon, Professor of Medical Pathology in the Madrid General Hospital. Translated by K. S. Stevens. Edited by Carey Culbertson, A.B., M.D., F.A.C.S., Associate Clinical Professor of Obstetrics and Gynecology, Rush Medical College. First American Edition from Second Spanish Edition. Cloth, Price \$6.50. Pp. 425, with 18 Illustrations. C. V. Mosby Company, 1929, St. Louis.

This translation has apparently been made with great care, since its editor has erased all of those evidences commonly noted in translations suggesting its foreign origin. The author has very carefully analyzed the complex symptomatology of this condition and has interpreted these conditions in terms of endocrine function or disfunction. His interpretation of the emotional conditions of the climacteric is especially well discussed, and the anatomic basis of his interpretation well presented. It is apparent that the author has had an unusual experience with patients of this age group, and his careful observation is evident throughout the treatise. It would appear that this volume would be of considerable value to the general practitioner, since the conditions discussed are those for which aid is so frequently sought from the "family physician".

The editorial notes which appear with considerable frequency throughout the discussion add much to the merit of the volume as does also the adequate bibliography accompanying each phase of the discussion.

DEVILS, DRUGS AND DOCTORS

The Story of the Science of Healing from Medicine-Man to Doctor. By Howard W. Haggard, M.D., Associate Professor of Applied Physiology, Yale University. Harper & Brothers, Publishers, New York and London.

Dr. H. W. Haggard has collected a tremendous volume of interesting and unusual historical data having to do with the age-long struggle of man against the ravages of disease. He has woven the medical superstition and quackery of each period in a pleasing and orderly story which permits the reader to readily appreciate the tedious stages of medical progress. The subject has been divested of technicalities, and Dr. Haggard's presentation will be found pleasing both to the laity and the physician. The volume should properly command a very wide distribution, since in my experience it is unique in its composition.

The JOURNAL of the Iowa State Medical Society

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DES MOINES, IOWA, JULY, 1929

No. 7

CONSERVATIVE SURGERY*

THOMAS F. THORNTON, M.D., Waterloo

Since the beginning of civilization, the practice of the healing art has been considered an honorable profession.

The leaders of our profession have been high-minded men, dominated by a spirit of service, working constantly for the good of man, without thought of personal welfare or happiness, but striving constantly to allay suffering humanity, but times have changed and different standards have crept into the practice of surgery and they have largely destroyed the beautiful ideals of the surgical profession a century or more ago.

Lack of time allotted to this paper necessarily restricts me to a discussion of but four important subjects.

1. Caesarian Section.
2. Thyroid Surgery.
3. Diabetes and Acidosis.
4. Multiple Operations.

CAESAREAN SECTION

In recent years the operation of Caesarean section has become a very commonplace method of delivery. The laity, the ill trained obstetrician and the general surgeon have all contributed toward increasing the percentage of deliveries by this method. Women, misled by statements often made by doctors, and misinformed as to the risk involved, and wishing to avoid the pains of normal childbirth, are responsible for some cases of section. In the practice of general medicine and surgery as well as obstetrics, the doctor who permits his patients to dictate their treatment is not upholding the dignity of our profession. Then, the ill-trained man in obstetrics becoming infested with *macrooccus greedis*, is prone to do unnecessary Caesarean sections.

The general surgeon is called upon occasionally

to see an obstetrical case, frequently his only qualifications for the care of such a case is his ability to perform a laparotomy. He is rarely, if ever, able to properly measure a pelvis or estimate the size of the baby. Furthermore, he is very apt to fail in a precise diagnosis as to the presentation and position. Frequently he lacks the ability to carry out recognized obstetric procedures other than laparotomy. Possibly a change in the position of the child, or the application of a hydrostatic bag, or a skillfully performed forceps delivery, or internal podalic version would save the woman from a laparotomy, but the surgeon is rarely able to ascertain these facts, and in most instances would be unable to carry out such procedures properly if determined.

Caesarean section is spectacular. Many operators like the spectacular. No Caesarean section should be done without well-grounded indications. The leading surgeons the world over caution against too many Caesarean sections and sound words of warning as to the high mortality which must and does attend this major obstetric procedure. Therefore, it is up to the general practitioner who is doing such a large percentage of deliveries to hesitate before deciding on a section for his case, and before consulting with the general surgeon or the surgical obstetrician about his case. The general surgeon and the surgical obstetrician should study the records of the large clinics, and not abide by the decision of an operator with a small group of cases. He should be guided by the advice of the leading obstetric surgeons that Caesarean section should be done only when there are definitely proven indications and only then with the full realization that Caesarean section, even in the hands of the most skillful operator, gives a high mortality. Late Caesareans and especially those following meddlesome obstetrics are accompanied by a very high mortality rate.

The surgeon should be capable of recognizing conditions calling for Caesarean section other than the classical type, and should be able to per-

*Address of Chairman, Section on Surgery, Iowa State Medical Society, Des Moines, Iowa, May 8, 9, 10, 1929.

form that type which gives his patient the best possible chance of recovery.

THYROID SURGERY

The thyroid gland has become one of the most recent organs to have attracted the surgical enthusiast. Every nervous woman is afflicted with internal goitre in his judgment. The public has been educated to the fact that that is a bad form of goitre, and is easy prey for the over-zealous surgeon, because he knows as a matter of common knowledge to the profession that such operations entail but a slight risk. Many times there is an utter disregard for basal metabolic determination or a careful clinical history and physical examination. The reason for advising operation is perhaps a rapid pulse, a loss in weight, or nervousness. Such cases have been diagnosed by some physicians as afflicted with tuberculosis, *tenia sagginata*, etc. However, there are conditions which call for thyroid surgery. One of these is exophthalmic goitre. It is somewhat surprising that in modern days when the operation for exophthalmic goitre has been so perfected as to carry with it but a slight danger to life when the pre-operative treatment and safer methods of anesthesia have simplified the procedure; that a considerable number of patients are allowed to progress to a stage where the presence of a thyroid crisis may make the operation so extremely dangerous as to be unwise or impossible. The reason for the existence of this condition must be, the unfamiliarity of thyroid disease to many practitioners, or an undue confidence in the so-called palliative methods of treatment, while rest, iodine, protective and supportive therapy have caused the permanent disappearance of the symptoms of hyperthyroidism in a few cases, is no excuse for persistence in such treatment over long periods. Such measures do not cause the symptoms to disappear. Remissions in hyperthyroidism are the rule. Recovery is rare.

The iodine treatment, from which so much has been expected, while it will cause a temporary remission, rarely restores the balance of the patient to normal for anything more than a short period of time, and, when the symptoms recur, becomes less effective. The most that can be expected of iodine is to hasten a remission. If this remission is sufficient to make the operation safe, then it should be done, without expecting a permanent cure from a palliative measure, and allowing the disease to progress to a more serious form, especially the much dreaded thyroid crisis. Partial thyroidectomy stops the supply of thyrotoxin to the circulation, or limits it to the amount

required for normal metabolism and balance of the nervous system. When a patient is brought to the hospital with dry skin, delirium, vomiting and diarrhea, rapid pulse, fibrillating heart and high temperature, operative treatment is out of the question, and in fact, the patient may die if no operation is performed. Energetic treatment by sedatives, fluids, iodine and glucose, which must be given intravenously if the stomach or rectum cannot retain them, is necessary and the results, even with the most active and intelligent treatment are in doubt. The hyperirritability of the nervous system in these cases is of such importance that sudden fright, bad news, losses, etc., may precipitate a crisis. Infections, even such as produce slight and unimportant effects in normal individuals, may in hyperthyroidism lead to the dreaded crisis, and quickly send the patient beyond the help of surgery.

Since we recognize these conditions, it is apparent that operations in the remissions offer the best chance for our patients and prevents deterioration in the heart muscle and kidneys. We all know the importance in operative cases, of minimizing the nervous shock of operations by protecting the patient with narcotics, combinations of local and gas anesthesia, which lessen the discomfort and alarm of the patient and how effective they are in making the operation successful. But no operation should be performed no matter how carefully and skillfully in the dehydrated, exhausted and delirious patient during a thyroid crisis. And such conditions are theoretically avoidable, because the disease is not acute, but gradual in its onset, with remissions and exacerbations.

The situation in this disease corresponds closely with that of cancer, where active propaganda has made possible such great advance in the treatment of a condition curable in its early stages, but so often hopeless after metastasis has taken place. The changes in hyperthyroidism are more rapid, but there is ample time for proper treatment. Let the patient and physician be more alert.

DIABETES AND ACIDOSIS

Although it is well known that mild diabetes may be successfully and satisfactorily operated on, and distinction is often made between glycosuria and true diabetes mellitus, it is well to recall an old dictum that "the presence of sugar in the urine, whatever its amount, is always a serious fact".

Certain surgical conditions have a definite relation to glycosuria. Sugar tolerance is reduced in exophthalmic goitre. Diabetes is often asso-

ciated with gall-stones, presumably because the lymphatic connections allow the development of pancreatitis.

Boils, carbuncles, and gangrene should always suggest a careful search for sugar in the urine or blood. In preparing a diabetic for operation, the diet, of course, is of the utmost importance. It must be adjusted with all the skill which study and experience can give. The sudden unbalance in carbohydrate or fats through the orders of a careless or inexperienced attendant may bring on serious disaster.

Insulin has been of the greatest benefit both before and after operation, and this drug should be given with every safeguard taught by authority. The dangers of hypo or hyperglycaemia must be kept clearly in mind, and the physician who gives insulin without an understanding of these matters may court disappointment. With a competent medical associate to secure the proper balancing of carbohydrate intake and insulin, the surgeon should be justified in the confidence that he may operate upon most diabetics with almost the same assurance with which he approaches the non-diabetic. In the preparation it must be remembered that in all advanced cases the cardiovascular apparatus is invariably impaired, and should be given careful consideration and treatment.

In questionable cases the kidney function should be studied and blood chemistry carefully determined. The proper balance of the intake and output must be accomplished if possible. Blood sugar over 0.35 per cent, or plasma co₂ combining power of less than 40 per cent renders operation hopeless.

The anesthetic is of importance. Chloroform injuriously affects the liver and body fats. Ether does the same to a lesser degree. Local anesthesia predisposes to extensive necrosis if infection occurs. Gas oxygen is the general anesthesia of choice, and spinal anesthesia preferred by many for certain operations.

Mutilation of tissues in operations on diabetics, particularly in cases of long standing, is dangerous. The vascular degeneration in such cases lower tissue vitality so that rough handling will readily predispose to infection. It is important that the operation be done in a clean, dry manner, and with dispatch.

Infected cases in diabetics are bad risks. Mortality records from the leading clinics for non-infected diabetic surgery shows from 9 to 12 per cent deaths; in infected cases, from 21 to 50 per cent.

The most important post-operative complication is coma. It is due to the development of acid or Ketone bodies, beta oxybutyric and diacetic acid, and acetone. The combating of this acidosis by the use of alkalis, principally sodium bicarbonate, has been unsuccessful. However, this line of treatment has aided materially in the relief of some symptoms of the toxemia.

Although some authorities state they have never seen a diabetic intoxication that was saved by the administration of sodium bicarbonate, I believe that we have all seen cases where we are certain it has helped, and until we learn more about the chemistry of these conditions, we will, no doubt, continue to give our patients suffering from acidosis, sodium bicarbonate by mouth.

Since insulin has become so widely used, the alkaline drugs do not occupy such a prominent place in our armamentarium, and where formerly we were striving empirically in an unscientific manner, we now have a definite, scientific means of combating acidosis and coma. The wise use of insulin, and intravenous glucose solution in competent hands has saved many lives that would have been lost before this treatment was available.

We have recognized the good results of the insulin glucose treatment also in the non-diabetic, post-operative acidosis. We have found that insulin therapy in the non-diabetic must be controlled even more carefully than in diabetes and at least two grammes of glucose should be given for every unit of insulin injected.

Gangrene ranks second to coma in importance as a diabetic complication. Usually, it is a late complication and associated with arterio-sclerosis and endarteritis obliterans. It is needless to emphasize the importance of early high amputation.

MULTIPLE OPERATIONS

The members of the surgical profession could be divided into two groups, namely: operators and surgeons.

Operators are those who are skillful with their hands, and careless with their brains. They are wonderful mechanics, but their work shows too many unnecessary operations and a mortality rate which is appalling. They are largely responsible for the present demoralization of the general practice of surgery.

Those who are in the second group are men deserving the designation of surgeon. They are really striving to do good work, and are honest with their patients, themselves and the profession. Upon them the responsibility for the future of surgery rests. There are three distinct quali-

ties which distinguish the members of this group from the other.

1. Ability to make a diagnosis. This is acquired in the general practice of medicine and from association with great teachers and diagnosticians. The surgeon should be able to recognize and diagnose medical conditions as well as to make a competent surgical diagnosis.

2. Surgical judgment. This is the greatest of the three characteristics and as a rule, the last to be acquired. It can only be acquired by years of experience, and close observation. The life and health of a patient depends upon surgical judgment.

The surgeon who knows when, and when not to operate, and who knows how much the patient can stand, and who knows what is pathological and what is not, and who has the courage of his convictions and a high conception of his duty has acquired the art of surgical judgment.

3. Operative technique is the least important characteristic, and thought by some to be the last word in surgery.

A surgeon's reputation should be built upon (a) the correctness of his pre-operative diagnosis and, (b) upon his post-operative results. The man who has a high percentage of mortality and morbidity, has no claim upon the title of surgeon.

A patient is entitled to more than to merely escape with his life. He should have a correct diagnosis before operation if possible. He should have competent surgery, and he has a right to expect more benefit from the operation, than from other forms of therapy.

The multiple operations are largely responsible for the laity's dread of operation, and to some extent to the high rate of mortality and morbidity.

Infected tonsils and teeth should not be disturbed in cases who have had a laparotomy done, until surgical convalescence is well established, for the reaction which follows the attacking of foci is sometimes severe, and becomes generalized. Heart valves, particularly when damaged, are very favorable tissue for bacterial growth and this is only one of the many unpleasant complications which may follow such practice.

It is the practice of some men doing surgery in the lower abdomen, together with a vaginal plastic to make an incision in the upper abdomen and remove gall-stones or some other procedure. This is mentioned only to be condemned.

Prostatic cases are being operated with a one stage operation, without giving the patient proper

pre-operative preparation and with an utter disregard for kidney function. This is not giving a patient the service he is entitled to expect from a surgeon doing this type of surgery.

The mortality following operation for carcinoma of the colon is still very high. It is as high, perhaps higher, than that accompanying acute emergency surgery.

Certain facts should be borne in mind by those doing this type of operation.

1. The colon contains large numbers of bacteria more virulent than those in the upper intestinal tract.

2. Many patients with carcinoma of the colon consult the surgeon after partial or complete obstruction has developed, and radical operation in the presence of even a moderate obstruction carries a higher mortality than a similar operation, if no obstruction was present.

3. The blood supply to the colon is less abundant than in the upper intestinal tract; hence healing does not occur so readily as in the upper tract.

More attention to pre-operative management, more care in the post-operative treatment together with a many stage operation, instead of one prolonged radical operation, will no doubt lessen the mortality rate in carcinoma of the colon.

The acute abdomen has undoubtedly given most surgeons anxious moments as well as sleepless nights wondering if a general adhesive peritonitis would develop, and visualize that patient with bright eyes, mentally alert, and conscious to the last or would it be an uneventful recovery.

I am firmly convinced that jejunostomy, as advocated by MacKinnon and MacCrea, will save many lives of patients with an acute abdomen, that would end fatally had it not been employed.

We should never forget that a patient who loses his life because of too much surgery or because of poor surgical judgment is just as much of a loss to society, and is just as dead as if he had died of heart disease.

As stated in the beginning of this paper, physicians and surgeons, all down the ages, have occupied a high place as healers of men, in the minds and the hearts of the people. To them, the unfortunate, the afflicted and the stricken have come and will come, relying not only on their skill and learning as surgeons but also on their character, their honesty and their integrity as men. It behooves us, therefore, to keenly appreciate our responsibilities, to regard highly the dignity of our calling and to guard jealously the best traditions of our profession.

MEDICAL ASPECTS OF PATIENTS WITH
PROSTATIC OBSTRUCTION*

HAROLD C. HABEIN, M.D., Rochester, Minnesota
Division of Medicine, The Mayo Clinic

The value of cooperation between the internist and surgeon has been demonstrated repeatedly in such diseases as hyperthyroidism, diabetes complicated by surgical lesions, biliary obstruction and obstructive lesions of the stomach and duodenum. Accurate diagnosis combined with pre-operative preparation and postoperative care has reduced the mortality on these conditions and led to better final results.

In cases of prostatic obstruction cooperation between the internist and surgeon is of even greater importance; for prostatic hypertrophy occurs at a later age than practically any other surgical condition. At The Mayo Clinic, 95 per cent of the patients presenting themselves with prostatic obstruction are aged more than fifty-five years, and 75 per cent are between the ages of sixty and seventy-five. One would expect to find in this group of patients degenerative diseases of the cardiovascular and renal systems which are the result of age and disease. This supposition is corroborated by the studies of Willis who, in a series of 705 patients with prostatic obstruction, found cardiovascular disease in 42 per cent. From the standpoint of age alone it would seem that the chances of the development of other diseases, such as hyperthyroidism, diabetes, arteriosclerotic diseases of the kidney, and malignant diseases, would increase with each succeeding year of life. Therefore, any patient with symptoms of prostatic obstruction should be subjected to careful inquiry concerning symptoms not associated with the genitourinary tract, and to a complete general examination. Besides the routine examination of a twenty-four hour specimen of urine, estimates should be made of the hemoglobin percentage; the number of leukocytes and erythrocytes; the blood urea for each 100 c.c., and the phenol-sulphonaphthalein excretion in two hours. Roentgenograms of the kidneys, ureters and bladder should be made as a routine. Other studies which are necessary in determining the patient's general condition should also be carried out.

When prostatic hypertrophy is complicated by other diseases, such as exophthalmic goiter, hyperfunctioning adenomatous goiter, cholecystitis or peptic ulcer, it is advisable to postpone operation on the prostate gland until other surgical

measures or medical treatment have been carried out. Prostatic obstruction may be in the meantime relieved by the use of the permanent indwelling catheter or intermittent catheterization. Diabetes, when present, should be under complete control before operation is undertaken. The optimal time for operation on the prostate gland will be determined by the general condition of the patient.

As is well known, the symptoms of prostatic hypertrophy consist of frequency, nocturia, hematuria, delay in starting the urine and inability completely to empty the bladder. The residual urine may vary between about 30 c.c. and the entire capacity of the bladder. There may be acute retention. Most men aged more than fifty years have some enlargement of the prostate gland; in many cases symptoms are not present, and in not more than 50 per cent of those in which symptoms are present are there indications for surgical procedures. In 90 per cent of cases of prostatic hypertrophy this enlargement is due to adenomatous hypertrophy, and in 10 per cent the enlargement is due to inflammatory changes or prostatitis.

The proper selection of cases for operation has an important bearing on the ultimate functional result. This phase of the matter must, however, be left to the urologist and surgeon, but in general the patient's inability to empty the bladder and the persistence of residual urine are the outstanding indications for prostatectomy. It is important to exclude such diseases as cerebrospinal syphilis, pernicious anemia, spina bifida occulta and cerebrospinal arteriosclerosis, which may lead to paralysis of the musculature of the bladder and the formation of the so-called cord bladder, the symptoms of which often simulate those of prostatic hypertrophy. Prostatectomy in the presence of a cord bladder often leads to a poor functional result, the most significant being urinary incontinence. In some instances the symptoms referable to the bladder are the first indications of the presence of cord lesions. Marked relaxation of the rectal sphincter may give a clue to the condition, and cystoscopic examination will reveal relaxation of the sphincters of the vesicle and the wall of the bladder with resultant poor expulsive force.

Cystoscopic examination is not necessary nor can it be done in all cases of prostatic obstruction. It is only when hematuria is present or when there is discrepancy between the amount of obstruction to the neck of the bladder and the size of the prostate gland as determined by palpation by rectum, or when other indications are

*Read at the Birthday Clinic of Dr. W. A. Rohlf, Waverly, Iowa, January 5, 1929.

present, that this procedure should be undertaken. Even then, patients with prostatic obstruction should not be subjected to cystoscopic examination in the presence of renal insufficiency. It may be necessary to drain the bladder and use other means of improving renal function for a time before this procedure can be undertaken safely. Patients who have had obstruction to the neck of the bladder or acute retention may be living on a narrow margin of safety, and cystoscopic examination may then be attended with disastrous results. Braasch and Hager, however, have called attention to the use of cystography in prostatic hypertrophy. This is a safe and valuable aid and often gives more information than any other procedure.

It is now generally agreed that preliminary drainage of the bladder is a significant factor in the preparation of patients for surgical procedures on the prostate gland. The danger of sudden emptying of a distended bladder is well known. Following this procedure, fall in blood-pressure, hemorrhage, edema and hyperemia of the urinary tract may be followed by anuria and uremia. Any bladder containing more than 150 c.c. of residual urine should be subjected to gradual decompression.

In most cases drainage of the bladder is best accomplished by the use of the permanent indwelling urethral catheter. However, if patients are intolerant to this form of treatment, or if their resistance has been lowered by intercurrent disease, it may be advisable to institute intermittent catheterization. If either of these methods is impracticable, suprapubic cystostomy should be done.

Patients who have had obstruction of the neck of the bladder for years, with secondary infection of the urinary tract, frequently have varying degrees of renal injury. The estimation of such injury and its improvement are important factors in the outcome after surgical procedures on the prostate gland. The estimation of the urea content of the blood and the phenolsulphonephthalein excretion affords valuable data regarding renal function. Normally the blood contains from 18 to 40 mg. of urea for each 100 c.c. and a phenolsulphonephthalein output of 50 to 70 per cent in two hours may be regarded as normal. The administration of phenolsulphonephthalein intravenously has been found preferable to the intramuscular injection.

In some instances patients are seen in whom the urea has risen as high as 250 mg. for each 100 c.c. of blood, and the phenolsulphonephthalein excretion is less than 10 per cent. Such evidence

of renal insufficiency is often seen in two types of cases: those in which symptoms of obstruction have been of short duration with sudden development of acute retention, and those in which symptoms of a moderate degree have been present for a long time and acute retention has developed. If symptoms have been of short duration, and acute retention has developed, the institution of gradual decompression followed by continuous drainage of the bladder may result in rapid recovery of renal function. On the other hand, patients who have had obstruction to the neck of the bladder for years are more likely to have varying degrees of permanent renal injury.

As aids in the recovery of renal insufficiency the patient should take from 2,000 to 3,000 c.c. of fluid daily, and from 500 to 1,000 c.c. of physiologic sodium chloride solution should be given intravenously. It has been found that the intravenous method of giving fluids is more satisfactory than hypodermoclysis or proctoclysis in that it is quicker and more accurate and gives the patient much less discomfort. The intravenous use of the sodium chloride solutions, when properly prepared and given slowly is practically without danger. From one to two hot packs may be given daily, depending on the general condition of the patient and how well they are tolerated. If they are found to be too weakening they should be discontinued. The diet should contain about 40 gm. of protein each day. Mild saline cathartics should be given to aid elimination by bowel. If there are no contraindications, the patient should be urged to be out of bed at least part of the day, care being taken that he wears sufficient clothing so as not to become chilled. Edema is rarely seen in renal insufficiency associated with prostatic obstruction, so that diuretics such as ammonium chloride and merbaphen are of practically no help and may actually be harmful.

The pathologic change underlying this type of renal insufficiency is found to be largely an interstitial type of nephritis, secondary to arteriosclerotic changes and infection. The glomeruli also show arteriosclerotic changes and frequently multiple small abscesses.

At times it will be noted that following temporary improvement in renal function, as evidenced by the blood urea and phenolsulphonephthalein determinations, the renal condition seems to reach a level and remain there. This may at times be taken as an index of the amount of permanent renal injury present. A number of such patients have, however, been subjected to cystostomy, and it has been a source of satisfaction

to have them return in three or four months, improved not only as to renal function, but generally. Prostatectomy has then been performed without the slightest difficulty.

In estimating the renal reserve of patients with prostatic obstruction, and the amount of benefit to be derived from treatment, one must remember that in the age group in which these patients fall, degenerative diseases of the kidneys due to arteriosclerosis are likely to appear. Often it is difficult to decide how much of the renal insufficiency is secondary to prostatic obstruction and infection, and how much is due to arteriosclerosis, or what relation the two conditions bear to each other. If one finds renal insufficiency in the presence of hypertension, generalized arteriosclerosis, secondary retinal changes, and inability to concentrate urine, one may assume that renal arteriosclerosis is playing an important part. These data may aid in the decision as to what type of operation, if any, is to be undertaken.

In the treatment of acute pyelonephritis, either preoperatively or postoperatively, which does not respond to the ordinary therapeutic measures such as the use of large amounts of fluid, urotropine and other urinary tract antiseptics, the use of 10 c.c. of 1 per cent solution of mercurochrome intravenously in 250 c.c. of physiologic sodium chloride solution has in some instances given striking results.

The study of the cardiovascular reserve and its improvement when possible also bears a distinct relationship to the outcome of prostatic surgery. In the estimation of cardiovascular efficiency, the taking of the history, first of all, is of great value. This should be detailed and painstaking. Inquiry should be made into the habits of the patient, and the type and amount of physical exertion to which he is accustomed. It is important to know how much fast walking or stair-climbing can be done without bringing on dyspnea, as well as the presence or absence of precordial or substernal pain on exertion. Inquiry should be made, especially in regard to cardiac decompensation or edema. If a patient is able to do hard physical labor without the onset of dyspnea and precordial pain, this serves as a basis for the estimation of cardiac ability.

A careful examination, with a consideration of the character of the peripheral arteries, the pulse rate, the size of the heart, quality of tones, and the presence of murmurs, affords additional information. Hypertension in the absence of cardiac or renal disease is not a contraindication to surgical procedures. Electrocardiographic studies

have added to the knowledge of cardiac disease, and have been of value in the estimation of cardiac reserve. At times these studies form a relative basis for prognosis, and a guide as to advice for the patient in the future. The electrocardiograph has often indicated such lesions as incomplete bundle-branch block and negativity of T waves which were unsuspected from the history and examination of the heart, but which, nevertheless, are of serious importance. Such observations are not in themselves contraindications to surgical procedures in the absence of other objective or subjective evidence of cardiac disease, but the potentiality of cardiac failure must always be borne in mind.

It has been observed often that with the onset of rather severe symptoms of obstruction to the neck of the bladder and distention of the bladder there has been an onset of cardiac symptoms, as manifested by dyspnea, orthopnea and edema. With the institution of drainage of the bladder, rest, and digitalis when indicated, there is often a rapid return of cardiac compensation, and such patients can be operated on with a comparative degree of safety. The same is true in auricular fibrillation, especially if there is a high pulse rate. The administration of digitalis in proper doses will slow the pulse rate, increase the efficiency of the heart, thereby increasing general circulation and improving renal function. The diuretic effect of digitalis is not due to stimulation of the renal epithelium but to the improvement in the general and renal circulation. In addition to digitalis, such drugs as ammonium chloride, merbaphen, and euphylline, may be tried. Ammonium chloride and merbaphen must, however, be used with caution in the presence of renal injury. Salyrgan, another of the mercurial diuretics, however, has been shown to cause very little renal irritation. Chronic valvular disease in the presence of good compensation is not a contraindication to surgical procedures.

In uncomplicated cases of prostatic hypertrophy drainage of the bladder is carried out for about ten days. In those patients presenting complications from a cardiovascular and a renal standpoint, drainage is continued until such a time as it is thought that operation can be performed safely. With the institution of permanent drainage the patient should be hospitalized and under daily observation. It is only by such observation and frequent studies of renal function that the patient's real condition and his ability to withstand operative procedures can be determined.

With the transfer of the patient to the surgeon the responsibility of the internist does not cease. Daily observation should be continued, so that complications may be combated as they arise. The use of various types of sacral and spinal anesthesia has been a factor in the reduction of postoperative pulmonary complications. When they do arise, however, early recognition is important. The oxygen chamber and the oxygen tent seem to have been a factor in reduction of mortality from this cause. The daily fluid intake should be kept up to 2500 to 3000 c.c. When it is impossible for the patient to take that amount by mouth, physiologic sodium chloride solution intravenously may be used as a supplement.

The blood-pressure and urinary output should be carefully watched during the first twenty-four hours after operation. A gradual increase in blood-pressure with each decade of life may be considered a "normal" phenomenon. Many patients who have reached the age in which prostatic hypertrophy occurs may have had varying degrees of hypertension for years. As a result the kidneys have become accustomed to a higher pressure and the maintenance of this pressure may be essential to proper renal function. Sudden lowering of this pressure may be followed by anuria. Such a condition often follows excessive hemorrhage and surgical shock. The maintenance of body fluids is the best method of preventing such a complication as it is the best method of treatment. Frequently it is advisable to give 500 c.c. of physiologic sodium chloride solution intravenously just before and after the operation. In the event of a dangerous fall in blood-pressure or lowered urinary output, the use of a solution of gum acacia or 20 per cent glucose intravenously and transfusion have been found effective in bringing about vascular equilibrium with resultant improvement in renal function.

The mortality resulting from prostatic surgery has been gradually reduced during the last two decades. This has been brought about by more accurate methods of determining cardiovascular and renal reserve, by careful preoperative preparation and refinements in surgical technic. Added to this, individual study and management of each patient has reduced mortality and added to better results. The patient with prostatic obstruction is a poor subject for operation, not alone because of the condition for which he seeks relief, but also from the standpoint of age and the associated diseases incident to his age. It is imperative, therefore, that close cooperation of internist, urologist and surgeon be maintained.

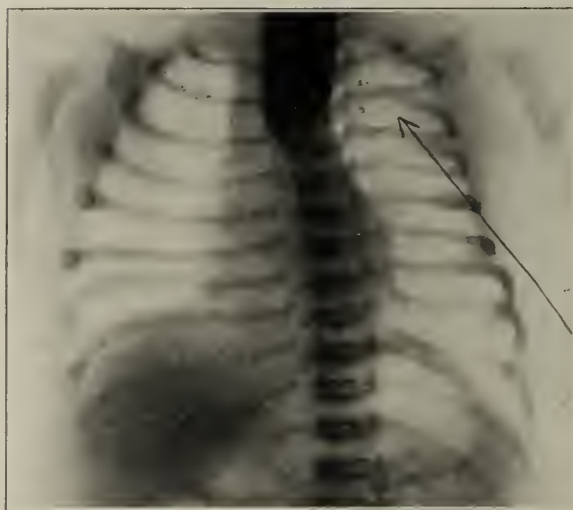
CASE REPORT

CONGENITAL MALDEVELOPMENT OF ESOPHAGUS

B. A. MELGAARD, M.D., Sioux City

Full term male baby weighing seven and one-fourth pounds normal delivery. One older child normal. Father and mother well. Family history negative as to any malformations or degeneracy. During period of gestation mother thought there was not so much quickening as in previous pregnancy.

Baby was delivered at term by Dr. Peters of Randolph, Nebraska, and he noticed that periodically it would have paroxysms of extreme cyanosis and difficulty in respirations. In the in-



tervals the color and respiration were normal. A considerable quantity of mucus was expelled from nose and mouth. X-ray was negative for thymus or lung abnormality.

When twenty-four hours old baby was brought to Sioux City and examination made at St. Vincent's hospital. The baby appeared normal except during cyanotic periods. There was retraction at diaphragmatic insertion during inspiration. Bubbling sounds were heard over both lungs and excursion limited. No other rales. No dullness. X-ray was again negative for thymus. Water given by mouth was immediately expelled without force. Meconium passed freely. An attempt was made to pass a catheter into stomach for exploratory purposes and complete resistance

was encountered in upper third of esophagus. A barium solution introduced through catheter revealed apparent absence of lower two-thirds of esophagus.

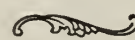
The following morning a surgeon, Dr. Keefe, did a gastrotomy, sewing tube into anterior surface of stomach. It was noticed that air passed frequently through tube. Feedings of breast milk in small quantities through tube were attempted and on two occasions milk appeared in the baby's mouth. Supposing that lower segment of esophagus might communicate with the trachea or one of bronchi, milk was discontinued for fear of pneumonia and only physiological salt solution administered. The baby lived five days.

Postmortem examination revealed no abnormalities except as follows: Upper third of esophagus ended in a closed pouch. Tracing the lower portion of the esophagus upwards from stomach it was found to communicate directly with left bronchus immediately below the bifurcation of the trachea.

STATE HEALTH COMMISSIONER'S PAGE



Henry Albert, M. D.



PREVALENCE OF COMMUNICABLE DISEASES

The past month has shown a marked seasonal diminution in the prevalence of most communicable diseases—more especially those, the development of which is dependent on the entrance of the causative organism through the respiratory system. Nevertheless, there was a fair amount of measles, scarlet fever, small-pox, and chicken-pox.

MEASLES

Measles occurred chiefly in Linn, Woodbury, Harrison, and Pottawattamie counties. The seasonal decline of measles should continue for two additional months.

SCARLET FEVER

Scarlet fever is still fairly widespread. This should also decline seasonally until it reaches its low point in August.

TYPHOID FEVER

Comparatively few cases of typhoid fever have been reported to date. This is somewhat surprising since Iowa still has a number of municipal water supplies which are regarded unsafe. The seasonal trend of typhoid fever should increase from this time until about the first of October. It is exceedingly important from a public health point of view, that every case of typhoid fever be promptly reported and that every effort be made to locate and eliminate the source of infection.

POLIOMYELITIS

Two cases of poliomyelitis or infantile paralysis were reported during the early part of June. Seasonally this disease increases from June until October. It is, therefore, well to be on one's guard for this very serious disease. We have as yet no evidence that there is likely to be more than a seasonal increase of this disease this year.

HE WHO DRIVES MAY READ OF SAFE WATER SUPPLIES

The Department has arranged to have sanitary engineers make a critical examination of the water supplies of the cities located on the main public highways.

The cities which are able to meet the rather strict sanitary requirements of the Department will have an appropriate sign put up at the city limits by the State Highway Commission.

TOURIST CAMPS TO BE APPROVED

The tourist camps located on the main public highways of the state are now being carefully examined as to their sanitary condition by engineers of the Department. Those that comply with the Department's requirements as to safety of the water supply, disposal of sewage and garbage and other conditions that have to do with sanitation, will receive an "Approval" card which will be placed at the entrance of the camp. The sanitary conditions on which the approval is based will also be posted. Anyone noting a fail-

ure to comply with the sanitary requirements—on the part of an approved camp—are asked to report the same to the Department.

ANTIVENIN FOR SNAKE BITES

There has recently been placed on the market by the H. K. Mulford Company of Philadelphia what appears to be an effective anti-snake bite serum prepared especially for the treatment of bites by rattlesnakes. It is a polyvalent serum—that is, it is designed to be effective against the venom of different kinds of rattlesnakes as well as other poisonous North American snakes.

The serum should be used as promptly as possible after the bite has occurred and certainly every effort should be made to use it within twelve to twenty-four hours. The regular dose consists of ten cubic centimeters of the serum. If there is no improvement of the symptoms within four or five hours a second injection should be given. It may be advisable to give even a third or a fourth dose. Any Mulford agent or representative can procure the serum on short notice. The air mail leaves Chicago at eight o'clock in the morning and arrives at the Des Moines post-office at eleven forty-five. The State Department of Health will aim to keep a small supply of the serum on hand to be distributed at cost as are other biologic preparations.

The use of Antivenin should in no wise lessen the usual endeavor to combat the poisonous effects of snake bites such, for instance, as the application of a ligature, free incision, and the use of stimulants other than alcohol.

PAMPHLET ON "MANAGEMENT OF SYPHILIS IN GENERAL PRACTICE" DISTRIBUTED

During the latter part of June, the Department sent to every physician in the state a copy of a pamphlet on "The Management of Syphilis in General Practice" issued by the U. S. Public Health Service as reprint No. 13 from Venereal Disease Information. It is thought to be the best publication of its kind that has ever been issued.

We trust that physicians will find it very helpful.

In case you lose your copy, you may obtain another one by sending ten cents 10c (coin—not stamps) to the Superintendent of Documents, U. S. General Printing Office, Washington, D. C.

TREATMENT OF INDIGENTS AFFECTED WITH THE VENEREAL DISEASE

Because of the relationship to the public health, this Department is interested in the prompt and

effective treatment of indigent cases of venereal disease.

In some cases (both cities and counties) the problem is partly met by free venereal disease clinics. The Department has sent to the officers of every county medical society, concise data regarding the organization and management of such clinics.

One rural county in Iowa has entered into an agreement with their county board of supervisors whereby all indigent cases of venereal diseases are treated at county expense. Their plan seems to be effective. In this county there is no free venereal disease clinic, but the board of supervisors has arranged to pay all physicians a certain specified fee for each treatment of an indigent venereal case—the bill for same to be rendered in the regular manner as for other indigent cases.

Experience in other states has shown that the whole problem of venereal disease control can be most effectively handled if the state will supply free neoarsphenamine and other drugs for the treatment of indigent cases. This Department's funds for that purpose are limited to a few exceptional cases. If the profession desires to have the Department furnish such supplies, you should write both this Department and the Managing Director of the State Medical Society so that a legislative program may be worked out.

PHYSICIANS NEAR THE BORDER

For many years physicians living near the border of neighboring states have been permitted the courtesy of seeing a patient across the border without being required by the neighboring state to take out a license. This courtesy is greatly appreciated. In order that there may be no termination of the courtesy arrangement, physicians should be very particular regarding the following three points:

1. There should be strict and prompt observance of all laws and rules of the neighboring states. This applies especially to those of the State Board of Medical Examiners and the State Board of Health. Births, deaths, and communicable diseases should be promptly reported and quarantine and similar regulations rigidly observed.

2. The practice in the neighboring state should be on the highest ethical plane.

3. The practice should not be in serious competition with a regularly licensed physician on the other side. Harmonious relations should prevail. The physician on the other side no doubt prefers to have such an arrangement prevail than to have you take out a license and become a serious competitor.

The JOURNAL of the Iowa State Medical Society

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The Cardio-Vascular System

HYPERTENSIVE HEART DISEASES

Time changes and concepts of diseases alter. Nowhere is the alteration of our concepts of diseases better illustrated than in cardiology. A decade or so ago, hypertensive heart disease did not exist. Today Cabot¹ holds that it is by far the most important cause of cardiac deaths. Fahr² states that there were about seventy thousand cardiac deaths from high blood-pressure in the registration area of the United States in 1924.

It would appear, then, that hypertension has sprung up mushroom-like over night. But such is not the case, for high blood-pressure has undoubtedly been with us always. In former years, cardiac deaths from this cause have been labeled: chronic myocarditis, cardio-vascular-renal disease, and perhaps also chronic interstitial nephritis. Every student of morbid anatomy has known all the time that chronic myocarditis was a clinical term that could not be substantiated by postmortem examinations. Cardio-vascular-renal disease is a monstrosity of medical phraseology devoid of scientific merit, and chronic interstitial nephritis seems to be only a phase of hypertension. Hence deaths from these three causes are in the vast majority of instances hypertensive deaths.

The heart fails in high blood-pressure from exhaustion. Since high blood-pressure begins in early life and lasts until death, it is obvious that the heart is required to do extra work—the amount of which is dependent upon the degree of hypertension, and even in moderate cases the number of extra work units required is enormous. For this reason, the heart early undergoes left ventricular hypertrophy, so that one may gauge fairly accurately the damage done by the hypertension by the degree of hypertrophy present. The typical hypertensive heart found at postmortem is moderately enlarged—it rarely weighs as much as 900 grams. Valve lesions are absent or very inconspicuous, and patches of fibrosis due to obliterative endarteritis are often present.

Clinically the constant cardiac symptoms are: demonstrable hypertrophy and sharpness of the sounds. The rhythm is regular in over 50 per cent of the cases, even to the bitter end. Ectopic beats are the most frequent of the arrhythmia. In the last phase of the disease, auricular fibrillation is relatively frequent. Flutter occurs as well as partial or complete block, and mitral murmurs are heard in about 80 per cent of the cases. The end usually sets in with congestive failure during which cardiac asthma is rather frequent. Pauline³ states that angina pectoris is a frequent complication, but in the experience of others, true angina is rare.

The treatment of these cases is the same as for other types of heart failure, only the rest must be more prolonged.

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Editor's Note—This is the third of a series of editorials dealing with the modern advances of cardiology. The fourth of the series will be published in the August issue, and will discuss recent contributions to our knowledge of "Extra-cardiac Manifestation of Hypertension".

Are you enjoying this type of editorial? Do you wish this series to continue? When the series on "The Cardio-Vascular System" is completed what general subject would you like discussed?

Remember, please, that the editorial policy and management of the Journal are to be what you make them through your suggestions and help. Take the time now to write us your suggestions.

Along the Old Spanish Trails

Medical Impressions

To sail the seas of the Spanish Main, and to follow the trails of the sixteenth century *conquistadores* in their search for *fabled fountains* and *el dorados*; to visit the shrines of the Spanish *padres* and note the enduring and romantic charm that still lingers about the old Franciscan missions; all reflecting the valor, zeal and glory of old Spanish America, spreading from the emerald isles of the Carribean, northward through the everglades, pines and giant oaks for a thousand miles along the gulf coast; onward and upward through the endless stretch of highlands, *mesas* and mountains, and westward for still a thousand miles through the dull gray desert; and finally over the rugged Cuyamaca mountains to the placid bay and sunny sands of San Diego; all recalling the intrepid daring, and prowess of a once great nation which spread its vast domain over seventeen millions of square miles of the earth's surface, from Bagdad to the Golden Gate and onward to the Philip-pines, is enough to stir the soul of the stoic.

But when one adds to these the warm handclasp with friends of other days, and the genial comradeship and inspiration which comes from daily contact with one's fellow workers in the art of healing, it lends a double charm to an unhurried motor journey of ten thousand miles, winding in and out along the endless trails of the Spanish southland.

Beginning with a holiday week at the First Pan-American Medical Congress in Havana followed by a month's sojourn in Florida and a leisurely auto journey by easy stages westward over the old Spanish trail, with some months in Southern California, and terminating in May at the annual meeting of the California Medical Association at Coronado and a subsequent homeward journey along the Santa Fe trail, where its unique and interesting adobe Mexican, and Indian villages, its painted deserts and rugged mountains pass in endless panorama, was the realization of a winter's outing long deferred.

Aside from the romantic and historic awakening incident to such a trip, the almost daily mingling with doctors, sanitarians and health officials offered an opportunity to learn something of health problems, hospitalization, medical education and economics, which may be of interest to my colleagues.

The present and immediate future capitalistic and commercial expansion, with its far flung social and political consequences into which we as a nation are entering brings home to us the pressing need for a better understanding, not alone of the health, economic and social problems of our Latin neighbors to the south and west, but a more generous and sympathetic appreciation of their language, spirit, institutions and culture as well.

Speaking broadly the Spanish-American people consist of a small fraction of the proud descendents of old Spain transplanted into a new world, and perhaps an equally small number of indigenous Indians retaining more or less their primitive traits, while the great mass of the population represents the ethnic, economic and social blend of these two forces, with,

in some instances, a generous mixture of negro blood, in which the dominant traits of the former is already becoming increasingly manifest.

To build a stable state and enduring civil institutions from these widely differing social elements, requires the skillfully directed education of the masses, and a tactful meeting of emergencies which the average Anglo Saxon can scarcely appreciate.

While it is true that modern education and enlightenment has not yet permeated the vast mass of the middle class, the earnest efforts of the respective governments for instruction in the simpler elements of health and social betterment are becoming manifest. States as well as modern industry have already recognized that health and social welfare in the home are important stabilizing influences.

The Mexican government for example has in

Dr. W. E. Sanders, of Des Moines, has just returned from an extended trip "Along the Old Spanish Trails". We are pleased to be able to present to our readers this very colorful account of his wandering which we feel accurately reflects medical conditions in sections but little traveled by the average Iowan.

—THE EDITOR.

operation extensive health and accident propaganda, which by circulars, placards, handbills and the movie, particularly appeals to the illiterate as well as the *intelligentsia*. Notwithstanding the gradation of social caste extending downward from the proud and cultured aristocrat, through the *patron*, the *haciendo*, the *peon* and the *mozos*, nevertheless each of these appreciate and recognize the established social organism of which he feels himself a part.

The establishment of dispensaries, health clinics, and hospitals by corporate, civic and individual enterprise, as well as the unlimited immigration of laborers across the border, where sanitary and living conditions are better, will prove potent factors in better health and social education, the fruits of which will be more realized with the oncoming generation.

In Havana, a metropolitan city of half a million, where it seems all the nations of the earth meet and mingle in equality, one witnesses just the proper blend of Latin prodigality with modern enterprise.

Its sanitary, hospital, and medical educational service is distinctly modern and well organized.

The new national university is a model of architectural beauty, standing boldly out on a pronounced elevation overlooking the sea, with its broad marble stairway leading up to a temple-like group of executive offices recalling the setting of the Acropolis of Athens.

The clinical faculty of its medical school controls chiefly the medical and surgical service of the two adjacent major hospitals of the city with a combined capacity of some twelve hundred beds. These hospitals are adaptations of the Spanish pavilion type of architecture, one story, with high ceilings, and large open windows extending to the concrete floors on two sides.

At the Mercedes there are among others, separate pavilions for tuberculosis and cancer cases,



GARCIA HOSPITAL, HAVANA

all kinds of hydro and physiotherapy, including swimming pools and Zander apparatus with trained attendants in charge.

The medical pavilion of the Garcia hospital is provided with all modern equipment including chemical and x-ray laboratories, metabolometers, electro-cardiographs, microphotographic apparatus, its own necropsy rooms and the nucleus of a pathologic museum.

Cancer and tuberculosis are common tropical diseases, the latter for the last few years on the increase; while goitre, pneumonia, influenza and lethargic encephalitis are not major problems among them.

The clinical service is organized much as our own, though the teaching is somewhat more didactic and interne service is not obligatory.

The medical school offers a free three year fellowship to honor students, which they may elect to take in the United States or Europe. Because of kinship of language and culture they usually go to France.

While the Spanish-American owes his whole cultural background to Spain, there is thought to be an insidious French influence permeating the whole cultural fabric of Latin America since the World War.

The Spanish physician commonly reads, and not infrequently speaks, English. In expressing regret that so few of our physicians speak their language or read their literature, my colleague facetiously remarked that we had a great plenty of medical literature in our own tongue.

From the standpoint of medical economics the stupendous influence of citizens' clubs in the capital is as great a menace to the profession as the panel system of England.

Originally established for the poor under the patronage of the Crown, they have grown in influence until they number scores of thousands of all classes and professions among their members and dominate the social, economic and cultural life of the city. For the nominal monthly fee of



MERCEDES HOSPITAL, HAVANA

two dollars these magnificent centers furnish amusements, education, dental and medical service as well as hospitalization to their constituency free. They own and control one of the largest hospitals in Havana and number on their staff some of the most distinguished members of the profession, who serve for the monthly stipend of two hundred and fifty or three hundred dollars. When asked how this splendid hospital was financed and supported the reply was; "Do you realize that the dues of these clubs amount to more than one and a half million dollars per annum?"

Since the hospital belongs to the club and the doctors are paid by the club the management often experience considerable difficulty in dismissing patients from the hospital. Religious prejudice combined with the individual independence of patients and friends combine to make necropsies difficult to secure in this hospital.

Cuba seems to have solved the race and color question. At clubs, cafes, theatres, on the *prado* and in the *plazas* of the capital one sees negroes, mulattoes, creoles, Spaniards and foreigners mingling with apparent equality.

One is told that this is political rather than social equality and came about by the large part all classes played in their struggle for independence.

The Spanish-American believes that our colonial revolution gave to the world liberty and independence, and theirs insured equality, international law and justice.

With the new medical opportunities opening up with our rapidly expanding industrial and commercial interests in Latin America, I can imagine no more delightful and profitable service than a winter semester in Havana.

In Florida and in the southwest I spent considerable time in cancer study among the Mexican and Indian population.

In the Seminole agency of Florida, consisting now of 506 Indians only two cases of cancer, and these of the face and skin in males were discovered in the last twenty-five years. Dr. De Puis of Lemon City who for many years has had a large experience with this tribe assured me he has never seen a cancer among them. Tuberculosis is equally rare and trachoma unknown. As they are coming more in contact with civilization, such modern virtues as venereal disease and alcoholism are increasing.

In their everglade home the Seminole are the most primitive tribe in America. They live in square open huts thatched with palm leaves, and with a somewhat elevated floor, where material

is available and in which they carry out the simpler arts of the home, and where the entire family eat, and sleep with their clothes on, with no semblance of tables, beds or bedding. They bathe frequently and are remarkable for keeping their highly multi-colored clothing washed clean. Their women of distinction wear enormous chains of amber colored beads about their necks and shoulders, sometimes weighing several pounds. They are monogamous with no visible evidence of courtship. They eat fish, game, fruits and herbs and from the grated root of some plants or shrub make a flour which is dried in the sun and from which they make a gruel or soup. They cook over fires in the open. Infidelity and illegitimacy are very rare and in the latter the infant is killed and the unhappy mother marked and enslaved for life. Until very recently they have acknowledged no civil law but have administered their own social regulations by their council and chieftains, even to the death penalty. Infant mortality is high chiefly from intestinal disorders. Regardless of age they seem to have remarkably regular and beautiful teeth. Old and young go barefooted and bareheaded. The agent described to me an accouchement at which he was an unwilling witness one morning at sunrise when journeying through the reservation. He had gone to a small lake for a morning plunge when he saw a young Seminole female approach from the everglades with a small hatchet and a leather thong. Unmindful of his concealment she cut two sticks with her hatchet and drove them into the ground about two feet apart, and cutting off a lot of palm leaves proceeded to make her couch. She then fastened the thong to the sticks at the level of the ground and removing all her clothing lay down and placing her feet against the sticks and wrapping the thongs about her hands proceeded with expedition to delivery. She then tied the cord and taking her new born baby in her arms walked boldly out hip deep into the lake and administered a full bath to herself and infant, after which she returned ashore and wrapping up the little Seminole and replacing her own clothes picked up her hatchet and started back to camp, the entire procedure not occupying more than thirty minutes. My narrator remarked in conclusion, that had not things gone favorable, neither the mother nor infant would ever have been heard from.

In Miami and St. Petersburg, where I sojourned for several weeks, the general economic depression which the state has suffered in the last two years is reflected in medical practice.

The general exodus of the people after the hectic financial period collapsed in 1926, with the unemployment and economic involvement of those who remained has left an overmanned profession in a rather bad way.

Surgical practice is I think somewhat more conservative than among us. Naturally malignancy is very common in such centers where the aging and infirm congregate for the winters.

The medical traveler finds much of interest and a hearty welcome by the profession in New Orleans.

In discussing the next meeting of the Pan American Medical Association which convenes in Panama in February next year, the dean of the Graduate Medical School of Tulane assured me they would be pleased to give our Iowa delegation a week about their clinical and other medical institutions. I had the good fortune here to see Dr. Mattis at work, whom the profession cheerfully acknowledges brought recognition to medicine in New Orleans. He is now chiefly engaged in literary work and it was a happy coincidence to see him do a Billroth on the stomach and discuss the clinical points involved. I was glad to get the reaction of such clinicians as C. Jeff Miller and Mattis, as well as the pathologists Duval, Harris and Larimore on the cancer problem, all of whom have done notable work on this subject. The clinical pathological conferences by Duval and Musser for the medical class at the Charity are inspiring models of medical teaching.

In the Southwest at El Paso, Santa Fe, Tucson, Phoenix, Douglas, San Diego, Long Beach, Riverside, Los Angeles and across the Mexican border I had occasion to learn something of the conditions of Indian and Mexican life and to compare the relative incidence of cancer among them with the white population. Of course there are many different tribes of Indians in these regions but the present Mexican population, I am told, is about a half-breed mixture of early Spanish adventurers and nondescript American frontiersmen on the one hand; and the friendly Pima Indians who originally occupied this territory on the other, and who because of their continuous wars with the Apaches welcomed the white man in their midst.

In a conference with Dr. Pruneda, chief of sanitary service in Mexico whom I met in Havana he assured me their recent sanitary survey indicates cancer is very rare among the indigenous Indians of Mexico while it is very common among the white population. This confirms Hoffman's statistics in Mexico City where he found the general cancer mortality about half that of our American cities.

My own studies, as a result of numerous consultations with physicians, health officers, Indian agents, statisticians and a study of hospital records, certainly accords with these conclusions. In the Los Angeles County Hospital for the six months ending this January first in proportion to the patients admitted cancer of the breast and uterus was three times as common in the whites as in the Mexicans.

The organ frequency, as Hoffman has noted, also appears to vary. Of 848 women dying of cancer of the female generative organs and the breast in Los Angeles for the three years ending January, 1927, the ratio in the whites was two to one and in the Mexicans six to one in favor of the breast. In the Southern California district with an Indian population of 2,763, only five deaths from cancer have been reported in the last six years and one of these a male, two of the uterus and in two the organs not stated. The agent informed me that a genuine cancer of the breast had recently been operated in this agency though I think this patient was still living.

Again it must be noted that winter tourist cities in California as well as Florida have a relatively high cancer death rate. Long Beach for example varies for the last five years from 99 to 123 per 100,000 while San Diego has varied slightly around 200. For the entire state of Iowa in 1928 it was slightly over 113.

A comparison of all vital statistics are meaningless unless the age distribution of the populations concerned is considered. This applies particularly to statistics collected from hospitals and institutions. Cancer is naturally rare in a fondling asylum and the mortality from childbirth should be low indeed in a veterans' hospital. Cancer being preeminently a disease of advanced life the race mortality will vary according to the cross section of all the population. It has often been stated that there is an antagonism between cancer and tuberculosis. Certain experimental proof of this has recently been advanced. But from a statistical standpoint in human beings one must first know what influence each of these diseases separately has in the age distribution of the population concerned. For example it is quite evident that the mortality from tuberculosis falls in the first half of the life span while in cancer it falls in the last half.

Accordingly a population like some of the Indian tribes where the death rate from tuberculosis is very high may be so altered in their age distribution as to give a relative low death rate of the surviving population from cancer.

In other words the dead of tuberculosis are removed from the hazard of cancer.

It is a common assertion of medical men that primitive races do not live old enough to die of cancer. So far as my observation goes I believe this is not true with the Mexican and Indian.

Everyone who has given serious consideration to cancer as a public health problem is convinced that notwithstanding our efforts of prevention and cure we are fighting a losing battle.

In spite of the few cases saved the mortality is steadily increasing throughout the civilized world and seems destined to continue until it reaches an annual mortality of approximately 125 per 100,000.

Moreover, everyone realizes that we know nothing of its cause or prevention and have no reliable means of cure. There is no proof that it is influenced by modern diet or conditions of life.

It is certainly not of itself an infection, and it is equally certainly influenced by heredity. The futile search for its cause and the increasing study of its biologic nature has yielded nothing of immediate practical value so far as its major problems are concerned.

If, as appears true, there are inherited racial strains, or conditions of living, in which cancer does not thrive it would be of the greatest importance to search them out in the field as well as in the laboratory. With the increased registration area, the federal census of 1930 should materially improve our statistics. Undoubtedly the census of the Indian tribes of the reservations can be made very complete and of great value, as I am told a personal record of each individual will be made. At the time of the taking of this census it would be a rather simple matter to combine with it a complete health survey of this population made by competent medical authority with modern laboratory equipment, with especial reference to cancer incidence among them. Such an effort might yield important information on the baffling problem of cancer which has already taken rank as the fourth disease in our national mortality and is on the increase.

W. E. SANDERS, M.D.,
Des Moines, Iowa.

THE SAMUEL D. GROSS PRIZE

Announcement has been made by the trustees of the Philadelphia Academy of Surgery that essays will be received in competition for the Samuel D.

Gross prize of fifteen hundred dollars until January 1, 1930.

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice founded upon original investigations, the candidates for the prize to be American citizens".

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d street, Philadelphia", on or before January 1, 1930. Additional details concerning this award may be obtained from the Academy.

IOWA HOSPITAL ASSOCIATION ORGANIZED

Saturday, June 1, an event of importance to the medical profession took place in Des Moines when representatives of a score of hospitals organized and became charter members of the Iowa Hospital Association. The objects of the association are the promotion of efficiency and economy in hospital management, the study of health problems, the development of hospitals, dispensaries, and medical service, and cooperation with all organizations with similar aims and purposes.

Robert E. Neff, manager of the University Hospital at Iowa City, was elected president; George L. Rowe of Des Moines was named first vice-president; G. T. Notson, superintendent of the Methodist Hospital at Sioux City, second vice-president; H. A. Grimm, manager of the Finley Hospital at Dubuque, secretary, and L. A. Nettleton, superintendent of the Iowa Methodist Hospital, Des Moines, treasurer.

The following members were named on the board of trustees:

Sister Benedicta, Mercy Hospital, Des Moines; Clinton F. Smith, Allen Memorial Hospital, Waterloo; Mary L. Elder, Burlington Hospital, Burlington; Mrs. Emma Louie, Jennie Edmundson Hospital, Council Bluffs, the Rev. A. E. Rest, the Evangelical Deaconess Hospital at Marshalltown; and Nita M. Isaacson, Kossuth Hospital at Algona.

Post Graduate Course in Iowa City, June 4-7

Twenty-five practicing Iowa physicians spent four days, June 4 to 7, at the College of Medicine of the State University at Iowa City and at the State Sanatorium at Oakdale taking a post-graduate course in lung and heart diseases and surgery.

According to the prospectus issued by the department of medicine of the University and the extension division the course was held under the auspices of the College of Medicine with the Iowa Tuberculosis Association, the Iowa Heart Association, the Iowa Sanatorium Association and the extension division cooperating.

It appears assured that the short post-graduate course for Iowa physicians has become a permanent annual feature. Last year such a course in tuberculosis and heart disease was suggested by Dr. John H. Peck, president of the Iowa Tuberculosis Association, and Dr. Merrill M. Myers, president of the Iowa Heart Association. A committee consisting of Dr. Fred M. Smith of the university, Dr. Walter L. Bierring, Dr. H. V. Scarborough, superintendent state sanatorium, Dr. E. H. Lauer, Dr. Peck and Dr. Myers worked out the plans. The course held in June, 1928, proved more successful than anticipated, more than eighty physicians applying. Celebrated specialists from all over the country were brought to Iowa City to give the lectures. Because of the general satisfaction with the work and because of the fact that more than two-thirds of those applying could not be admitted it was decided to hold a similar course in 1929. Later the subject of surgery was added for this year's curriculum.

The response this year both in the way of applications and in the way of acceptances from the special lecturers was especially gratifying, confirming the decision that such a course should be made a regular annual event.

This year the faculty was made up as follows: Walter L. Bierring, M.D., Des Moines; George E. Brown, M.D., Rochester, Minnesota, assistant professor medicine, The Mayo Foundation, Royal W. Dunham, M.D., Ottawa, Illinois, medical director of the Ottawa Sanatorium for Tuberculosis; Morris Fishbein, M.D., Chicago, editor of the Journal of the American Medical Association; C. E. Harris, M.D., Colorado Springs, chief of the medical staff, Modern Woodman's Sanatorium; Carl A. Hedblom, M.D., Chicago, professor of surgery, University of Illinois; Hugh McCulloch, M.D., St. Louis, associate professor of medicine, Rush Medical College; Jay A. Myers, M.D., Minneapolis, assistant professor of preventive medicine and public health, University of

Minnesota; Cyrus C. Sturgis, B.S., M.D., Ann Arbor, professor of internal medicine, University of Michigan; Walter H. Watterson, M.D., Maywood, Illinois, chief of the section of tuberculosis, Edward Hines, Jr. Hospital, United States Veterans' Hospital; and the staffs of the State Sanatorium and the University College of Medicine.

About half of each day was occupied in section clinics on each subject. The men were divided into groups. The following description of the tuberculosis clinics will illustrate the method: The section clinics consisted of a division of the physicians enrolled into groups of four who were given an opportunity for practical study of patients by history taking, by physical examination, by x-ray and through differential diagnosis. Dr. Harris preceded these clinics by a practical demonstration. A dozen or more patients were available for demonstration purposes. Each group of physicians recorded their findings and then were checked by the faculty and ample opportunity given for the discussion and demonstration of questionable points. Shadow boxes were arranged for demonstration of x-ray films and considerable time given to interpretation of the radiographs.

The surgical group was limited to fifteen, and was organized to give a well rounded survey of surgery in all its fields. The diagnosis and indications for the treatment of surgical condition were emphasized, rather than surgical procedures. Round table conferences, special lectures by visiting specialists, the regular staff of the laboratories and of the clinical departments occupied part of each day. The larger part of the day was spent in the study of the patient at the bedside. The ward walks were informal and general discussion was invited. The surgical courses included general surgery, obstetrics, gynecology, genito-urinary and orthopedic surgery.

The following physicians were enrolled: George Bairnson, Cedar Falls; S. W. Barnett, Cedar Falls; Walter Cary, Dubuque; L. W. Clark, Chester; J. S. Coontz, Garden Grove; O. L. Frank, Maquoketa; R. E. Gunn, Boone; C. C. Hall, Maynard; Ed. A. Hanske, Bellevue; H. R. Hess, Cedar Rapids; J. W. Hill, Mt. Ayr; Florence Johnston, Cedar Rapids; H. D. Jones, Schleswig; F. H. Lamb, Davenport; O. C. Lohr, Churдан; C. E. Lovett, Lineville; Karl R. Luthy, Corydon; D. J. Meentz, Ft. Madison; A. E. Merkel, Ankeny; R. E. Mundeen, Cedar Rapids; Kenneth Murchison, Sidney; L. W. Prescott, Sloan; A. A. Schultz, Ft. Dodge; E. E. Shaw, Indianola; T. S. Walker, Corydon.

Minutes of the Iowa State Medical Society Seventy-Eighth Annual Session

May 8, 9, 10, 1929—Des Moines

Wednesday, May 8, Morning

The members of the Iowa State Medical Society convened in annual session at Hotel Fort Des Moines, Des Moines, May 8, 1929.

The Society was called to order at 8:30 o'clock by the President, Dr. Thomas U. McManus, Waterloo. The meeting was opened with invocation by Rev. Arthur A. Brooks, D.D., Des Moines, Pastor, Grace Methodist Church.

The Address of Welcome for the city was given by Hon. E. H. Mulock, Mayor of Des Moines. Dr. C. E. Ruth, Des Moines, President of the Polk County Medical Society, then gave the address of welcome for the profession, response being made by Dr. Thomas F. Suchomel, Cedar Rapids.

On behalf of the profession of Iowa, Dr. Michael J. Kenefick presented to the President a gavel not only as an emblem of authority, but as a memento of the esteem and confidence in which he was held by his confreres. The President in a brief address expressed his gratitude for the gift.

Dr. William Hearst, Cedar Falls, read a paper on "Cancer of the Breast", followed by Dr. William R. Jepson, Sioux City, with an address on "Some Phases of the Cancer Problem". Discussed by Drs. Frank M. Fuller, Keokuk; Charles Ryan, Des Moines; James R. Guthrie, Dubuque; C. E. Ruth, Des Moines; Albert V. W. Hennessy, Council Bluffs, and Wm. A. Rohlf, Waverly, the discussion being closed by Drs. Hearst and Jepson.

Dr. Earl S. Brown, Secretary Kansas State Board of Health, Topeka, read a paper on "Morbidity and Mortality in Relation to Public Health". Discussed by Drs. Henry Albert, State Health Commissioner, Des Moines; Adolph J. Lieber, Des Moines, and Clarence H. Kinnaman, Topeka, Kans., the essayist closing the discussion.

Dr. Channing G. Smith, Granger, presented a paper on "Medical Economics". Discussed by Drs. Mark C. Jones, Boone; Charles H. Magee, Burlington; Emil C. Junger, Soldier, and by Dr. Smith in closing.

Dr. Jack V. Treynor, Council Bluffs, Chairman of the Medical Section, read a paper on "Schoolsickness".

Wednesday, May 8, Afternoon

The meeting was called to order at 1:30 o'clock by the President.

A Symposium on "Kidney Infection in Childhood", was presented, as follows:

"From the Pediatric Viewpoint", Dr. Phillip C. Jeans, Iowa City;

"From the Genito-Urinary Viewpoint", Dr. Leon D. Jay, Waverly;

"From the Eye, Ear, Nose and Throat Viewpoint", Dr. George F. Harkness, Davenport.

Discussion of paper by Dr. Jeans was opened by Dr. Benjamin C. Hamilton, Jr., Jefferson;

Discussion of paper by Dr. Jay was opened by Dr. Clifford W. Losh, Des Moines;

Discussion of paper by Dr. Harkness was opened by Dr. Royal F. French, Marshalltown.

The Symposium was then discussed by Dr. Joseph Brennemann, Chicago.

The Address in Medicine, entitled "Some Observations on the Treatment of Empyema in Children", with lantern demonstration, was given by Dr. Joseph Brennemann, Chicago. On behalf of the profession of Iowa, the President thanked Dr. Brennemann for his presentation.

The President retired to attend the meeting of the House of Delegates, Vice-President Pearl E. Somers presiding during the remainder of the session.

Paper on "Malignant Tumors of the Testicle" was presented by Dr. Allen C. Starry, Sioux City, with lantern demonstration. Discussed by Dr. Wm. L. Hornaday, Des Moines, and Dr. Starry in closing.

Paper entitled, "Some Remarks on the Management of Diabetes", was read by Dr. Benjamin F. Wolverton, Cedar Rapids, and discussed by Drs. Charles W. Ellyson, Waterloo, and Edwin B. Winnett, Des Moines, the essayist closing the discussion.

Wednesday, May 8, Evening

At 6:30 o'clock the Fellows of the Society, honored guests, members of their families, and friends, assembled in the banquet hall for the seventy-eighth annual dinner and accompanying entertainment. The musical program was rendered by the Bankers Life String Ensemble and the Shrine Chanters. Mr. Vernon D. Blank, Managing Director, gave an address on "The Torchbearers", followed by Hon. Henry L. Adams, Des Moines, who presented in an interesting and instructive way his views on the subject of "Investments".

Thursday, May 9, Morning

The meeting was called to order by Vice-President Somers at 9 o'clock.

Papers were read as follows:

"Problems in the Control of Acute Infectious Diseases in Rural Districts of Iowa", Dr. Bert L. Eiker, Leon. Discussed by Drs. Clifford D. Mercer, West Union; Charles H. Magee, Burlington; D. C. Steel-smith, State Department of Health, Des Moines;

Frank M. Fuller, Keokuk; John H. Chittum, Wapello; Paul W. Van Metre, Rockwell City; Fred Moore, Des Moines, and Dr. Eiker in closing.

"Present Status of Serum Therapy in Scarlet Fever", Dr. Lee Forest Hill, Des Moines. Discussed by Drs. John C. McKitterick, Burlington; Taylor R. Jackson, Albia, and Henry Albert, Des Moines, the essayist closing the discussion.

The House of Delegates having adjourned, the President presided during the remainder of the session.

"Control of Intractable Pain", Anatole Kolodny, Iowa City. No discussion.

"The Complications of Duodenal Ulcer", Dr. Gordon N. Best, Council Bluffs. Discussed by Drs. James C. Hill, Newton; Murdoch Bannister, Ottumwa; F. W. Mulsow, Cedar Rapids; John F. Ritter, Maquoketa, the essayist closing the discussion.

"Intermittent Muscular Spasms, Resembling Jacksonian Epilepsy, Complicating Recurrent Epidemic Encephalitis", Dr. Tom B. Throckmorton, Des Moines. Discussed by Drs. Max E. Witte, Clarinda; Anatole Kolodny, Iowa City, and by Dr. Throckmorton in closing.

Thursday, May 9, Afternoon

The meeting was called to order by the President at 1:30 o'clock.

Dr. Thomas F. Thornton, Waterloo, Chairman of the Surgical Section, presented an address entitled, "Conservative Surgery".

A Symposium on "Lesions of the Upper Abdomen" was next presented, consisting of the following papers:

"General Diagnosis in Some of the More Common Lesions of the Upper Abdomen", Dr. John T. Strawn, Des Moines;

"The Clinical Significance of X-ray Signs in the Diagnosis of Common Lesions of the Upper Abdomen", Dr. Arthur W. Erskine, Cedar Rapids;

"Surgical Procedures in Some of the More Common Lesions of the Upper Abdomen", Clarence M. Wray, Iowa Falls.

Discussion of Dr. Strawn's paper was opened by Dr. Milton B. Galloway, Webster City; of Dr. Erskine's paper, Dr. Judd C. Shellito, Independence, of Dr. Wray's paper, Dr. William A. Rohlf, Waverly.

Dr. Thomas F. Thornton: "We have here this afternoon a distinguished visitor, and I therefore move that the freedom of the floor be extended to Dr. Hugh Cabot, of Ann Arbor".

The motion was unanimously carried by rising vote.

General discussion of the Symposium was participated in by Drs. Charles H. Magee, Burlington; Emil C. Junger, Soldier; and Hugh Cabot, Ann Arbor.

Dr. Henry S. Houghton, Iowa City, presented a paper on "Unity and Progress in Medicine". Discussed by Drs. Walter L. Biering, Des Moines;

Evan S. Evans, Grinnell; and John F. Herrick, Ottumwa.

The Address in Ophthalmology, Otology and Rhino-Laryngology was given by Dr. Theodore S. Blakesly, Kansas City. Subject, "Diathermy and Light Therapy in Eye, Ear, Nose and Throat Work".

Dr. Gerald V. Caughlan, Council Bluffs, read a paper on "Bladder Neck Obstruction", which was discussed by Dr. Henry R. Searle, Iowa City, the essayist closing the discussion.

Thursday, May 9, Evening

The meeting was called to order by Vice-President Somers at 8 o'clock.

President McManus read his Presidential Address.

Dr. Hugh Cabot, Dean and Professor of Surgery, University of Michigan Medical College, Ann Arbor, then gave the Address in Surgery: "The Choice of Anesthetics in Major Surgery, with Particular Relation to the Protection of the Patient".

By courtesy of the American Society for the Control of Cancer, William R. Jepson, M.D., Iowa Chairman, the Canti Cancer Film was shown, explanation of the procedure involved in its making being given by Dr. Julius S. Weingart, Des Moines.

Buffet Luncheon and Smoker followed the program.

Friday, May 10, Morning

The meeting was called to order by Vice-President Somers at 9 o'clock.

Dr. Hans Haumeder, New Hampton, read a paper on "Constipation". Discussed by Dr. Emil C. Junger, Soldier.

President McManus presided during the remainder of the session.

Dr. Guy B. Anderson, Ackley, presented a paper on "Symptoms of Some Rectal Conditions and Their Treatment by Ambulatory Methods". Discussion was opened by Dr. W. W. Bowen, Fort Dodge, followed by Dr. Charles H. Magee, Burlington, the essayist closing the discussion.

Dr. Granville N. Ryan, Des Moines, announced that the Missouri Valley Medical Society would convene in annual session at the State University, Iowa City, about the middle of September, at which time a three days' program consisting of medical and surgical post-graduate work would be presented by eminent teachers and clinicians from the Medical Departments of this and other states. Members of the Iowa State Medical Society were cordially invited to be present.

Dr. John W. Thornton, Lansing, read a paper on "The Heart in Thyroid Disease". Discussed by Drs. Hugh McCulloch, St. Louis, Mo.; Merrill M. Myers, Des Moines, and C. B. Luginbuhl, Des Moines, the essayist closing the discussion.

Dr. Arthur Steindler, Iowa City, presented a paper on "Osteomyelitis of the Spine", illustrated with lantern slides. Discussed by Dr. P. A. Bendixen, Davenport.

Report of the transactions of the House of Delegates was then presented by the Secretary, as follows:

Summary of Proceedings of the House of Delegates

"I feel that practically all of you will agree with me that this has been a very wonderful session of the Iowa State Medical Society. Aside from the interest shown three years ago at the Diamond Jubilee, the seventy-fifth birthday anniversary of this institution, I am sure that the present session represents the largest attendance and the greatest interest of any meeting of the Society, at least within my memory. To those of you who for three days have had the privilege of attending the general meetings and listening to the scientific pabulum that has been handed out to you by essayists and discussers in which I am pleased to state there has been no break in the program, I come to relate what the workers have been doing in the House of Delegates while you have been enjoying discussions pertaining to scientific medicine.

"The work at the afternoon session Wednesday consisted largely of routine matters relating to reports of the Secretary, the Treasurer, the Council, the Trustees, and Delegates to the A.M.A. Report of the work done last year by the Medico-Legal Committee was presented. The Committee on Constitution and By-Laws presented for consideration some changes which, in its judgment and the judgment of others, were worthy of adoption. No radical alterations in the By-Laws were advocated, but merely certain changes which would clarify the laws to such extent there could be no question as to the intent and purpose of certain of the sections. And I might add that in adopting these changes the House has without question delegated to the Council certain duties which, I know, that body will perform faithfully and well if called upon so to do.

"Reports of the Publication Committee, by Dr. Simmons, the Editor, and of the work done by Mr. Blank in the office, were also received, following which the House adjourned.

"The second meeting, held Thursday morning, was called to order by President McManus at 8 o'clock, with a total of 80 members present.

"The work of the Committee on Public Policy and Legislation was the first order of business. Its chairman, Dr. Thomas A. Burcham, presented a report covering the activities of the committee during the past year, which was particularly appreciated by the delegates, and after an able discussion by various members the House manifested its approval of the work accomplished by extending to the committee a rising vote of thanks.

"An important matter was brought to the attention of the House by Dr. Herrick of the Board of Trustees, to the effect that the Council be instructed to appoint during the coming year three members of the society to form a committee on medical edu-

cation and hospitals, which I am sure is going to be a step in the right direction.

"The House also went on record as being opposed to the Shepherd-Towner Act, in that it was unfavorable to continuation of this state in supporting the program of the work entailed in carrying out the act.

"All of the proposed amendments to the By-Laws were carried, after which the committee brought before the House a communication presented to it by the President-elect, Dr. Peck, in which he expressed the desire to present for general consideration some changes, with the view of making a radical and widespread change in the Constitution and By-Laws of the society. As you know, no such action in changing the Constitution can be taken until at least a year has elapsed, therefore if during the coming year this matter should be brought to your attention I am sure it is the wish of your committee that you give special attention to the proposed changes and weigh the matter carefully; then when you come back to the House of Delegates next year you will have some idea as to what you believe should be done. I am sure that in bringing this matter before the House next year it is the purpose of Dr. Peck and the committee to recommend only what we all would deem to be for the 'good of the order'.

"One advance has, I believe, been made in changing the By-Laws this year, in that the selection of councilors by delegates in caucus has been relegated to the past. In the future, councilors will be nominated by the nominating committee.

"After roll-call this morning, the first order of business was to receive the report of the nominating committee, after which the House proceeded to election. In consequence of the ballot, Dr. William A. Rohlf, Waverly, was chosen for the high office of President-elect for the coming year. He will be very ably supported on both sides by Dr. Gordon F. Harkness, Davenport, as First Vice-President, and Dr. William W. Bowen, Fort Dodge, as Second Vice-President. Dr. John F. Herrick of Ottumwa was re-elected to the office of Trustee for the next three years. Our able and efficient delegate to the A.M.A., Dr. Thomas F. Thornton, Waterloo, was likewise returned, and as an alternate Dr. Clyde A. Boice, Washington, was also returned. Dr. Frank A. Ely, Des Moines, succeeded himself as Chairman of the Medico-Legal committee, and the entire membership of the committee on Public Policy and Legislation was likewise returned. No changes were made in the other committees.

"The date of the next annual meeting will be May 14-15-16, and the meeting-place will be in Marshalltown.

"At the suggestion of Dr. Bierring the incoming President was authorized by the House to appoint a committee to be known as the Historical Committee, of which the dean of the medical profession, Dr. D. S. Fairchild of Clinton, will act as chairman.

"Through a member of the House the question of the activities of agents in the Narcotic Bureau as well as the allowing of so-called drugless healers to make use of opium and its derivatives was again brought to the attention of the delegates, and acted upon in a resolution presented this morning. It may be that some of you are already conversant with the fact that the Internal Revenue Department is said to have employed spies to go about the country endeavoring to entrap physicians in prescribing, so-called illegally, opium or its derivatives. I do not think we have had much of that in Iowa, but it has existed in some places. In Cincinnati, Ohio, I was informed that a dope fiend was brought into that city and given all of the drugs that he himself wished to use as well as to supply others, with the idea of actually entrapping members of the medical profession into prescribing illegally the drug. Another matter which the same member of the House brought to our attention was a ruling made by the Attorney-General in allowing so-called drugless healers to use opium or its derivatives, it being claimed that the drugs had no curative value. Therefore upon the Board of Trustees has fallen the task of threshing out this matter during the coming year and reporting at the next meeting.

"The attendance this year has reached almost 800. I am sure that if all who have been in attendance had registered we would have reached the 800 mark or beyond.

"On the whole, I feel that as the curtain is about to be rung down on the old and the new is to be ushered in we can all return to our several homes with the conviction that this meeting has not been in vain; that we will be better physicians, better men and women, for having attended this session, the success of which has been largely accomplished through the untiring zeal and efforts of the President, who got on the job as soon as he was chosen President-elect, and, leave it to me, 'The further he went along the line, the further he shifted into high'. I pay this tribute to President McManus."

President McManus: "Gentlemen of the Society: Before becoming ex-president I desire to acknowledge to you my gratitude and appreciation. For the support that you have given me and all the officers who have been responsible for this program and the other activities that we have tried to father during the year, we feel most grateful. And especially do I wish to acknowledge my indebtedness to the incoming President for much valuable counsel during the year. Since the last meeting we have attempted to cooperate, and have succeeded in doing so, not only to our own advantage, but we hope for the good of the society. I now have the pleasure of introducing to you the man selected to be your leader through the coming year, President John H. Peck of Des Moines."

President Peck: "I wish to take this opportunity to express my very sincere appreciation for the great honor bestowed in making me your leader through the coming year, the highest office in the

gift of the Society. To say that I feel unworthy would indeed be true. However, the long line of eminent predecessors is a splendid stimulus to one's best efforts. The year spent on the side lines has given me a keen sense of the many responsibilities of this office.

The State Medical Society has become a big business concern. The report of your Treasurer serves to indicate its activities along this line, and the increase in its tangible assets during the past year is a commendable condition. Everything possible has been done to the end that we spend our income wisely. The past year has seen a marked expansion of our business affairs. You have seen and heard our energetic and popular Managing Director, you have seen our admirable clerical staff handling an almost record-breaking registration. We now have well arranged and suitably equipped offices; the Editor has his private sanctum, and you have noted his appreciation in the improved quality of our State Journal; an improved spirit of industry pervades all quarters of the state offices. Many things have been accomplished, but many other plans are in the making.

"We appreciate the advice of the President given last night, and must profit from his experience. From my seat on the side-lines I am convinced that our greatest need is a practical, workable business organization. To that end, careful study of our present constitution and by-laws has revealed the need for extensive revision to cover present day usages and to conform to the practice in our sister states. We should, during the coming year, seek the opportunity to discuss these proposed changes, for I believe they are vital, but time does not permit mention of more than the most important.

"1. The President-elect should be given a job. Now he is but a loafer—no duties, no obligations. I am resolved that the next President-elect shall have certain unofficial duties even as your retiring President has worked me. I feel that the inaugural address of the president should be given at the beginning of his term, making certain promises, rather than at the end of his term, at which time he points with pride at the things which he may or may not have accomplished. 2. The Council should be reorganized as a board of trustees with the officers of the Society as ex-officio members. Its duties need to be enlarged and better defined. 3. The Councilor Districts, you have already been told, are entirely unworkable and must be changed to meet present conditions. 4. The Lay Educational Bureau and the Lay Societies Speakers Bureau have been started, but need greater publicity and more encouragement.

"It is not necessary to discourse at length on our hopes and anticipations. We are consecrated to service or we would not be true physicians. I wish to reaffirm the promise made to your officers to give you the best possible service during the coming year. The scientific program is most important. We have already started work on next year's pro-

gram, and will cordially welcome your suggestions and constructive ideas as well as constructive criticisms. We hope to give you exactly what you all wish. Do not hesitate to advise us and offer your contribution.

"The Section chairmen will be as follows:

"Medical Section—Dr. Lee R. Woodward, Mason City.

"Surgical Section—Dr. Edward M. Myers, Boone.

"Section on Ophthalmology, Otology, Laryngology and Rhinology—Dr. Frederick W. Bailey, Cedar Rapids."

President-elect Rohlf was then presented and spoke as follows:

"The past-President certainly has set a high goal. There is just one objective I have in mind, and that is to give you the best I have, and during the coming year I shall be at the feet of the master. I appreciate more fully than it is possible to express the honor you have conferred upon me, and will just promise to do the best I can."

Adjourned, sine die.

Tom B. Throckmorton,
Secretary.

Transactions House of Delegates

Iowa State Medical Society, Seventy-Eighth Annual Session

May 8, 9, 10, 1929—Des Moines

First Meeting, Wednesday, May 8

The House of Delegates met in the Oak Room, Hotel Fort Des Moines, and was called to order at 4:06 p. m. by President McManus.

Roll call showed the presence of 15 officers, and 72 delegates, making a total of 87.

The minutes of the Friday morning session held in Cedar Rapids, having been published in the July, 1928, issue of the Journal, were considered to have been given sufficient publicity, and were accordingly held approved as published.

REPORTS OF OFFICERS

The Secretary, Dr. Tom B. Throckmorton, presented his report, which, upon motion duly seconded and carried, was accepted and such portions of the same as referred to finances were referred to the Finance Committee.

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the Iowa State Medical Society:

The following report for the year 1928-29, is respectfully submitted:

The various activities of organized medicine in Iowa have been carried on with increased vigor during the past year and, I am pleased to state, most all of which have been brought to an abundant and a successful function. The work of the Councilors and of their deputies has been of immense value in stimulating interest in the affairs of the various county medical societies. While it is only possible for the membership of this Society to increase to a relative number, still the constant stimulation of the various county societies to increase their membership, whenever possible, has been of great value in interesting the eligible physician in the advantages accruing from membership in organized medicine. At present 2,115 members have paid their dues for 1929, and many more dues will be received ere the books of the fiscal year are closed. These figures

represent about the usual number of members who have paid their dues prior to the annual session of the Society. A careful checkup reveals that 147 new members were added to our roll during the past year. This alone speaks for some of the activities in the various Component County Medical Societies. I cannot help but feel that closer and more persistent cooperation between the Councilors, Deputy Councilors and the Secretary's office will bring about even greater results as regards increased membership than the above quoted figures imply.

While the following statement may, in a way, be a digression and more properly belonging to the Council for submission, still I cannot refrain from expressing a belief I have long cherished; namely, the reapportionment of the counties in the various congressional districts—long since arranged for political purposes—in such a manner as to allow ready access for visitation by the Councilor who is charged with the oversight of the many duties belonging to the district he serves, would increase, very materially, our membership and county society activity. Every Councilor has long since learned from experience the devious, complicated and, oftentimes impossible, way it takes in attempting a visitation to certain counties he is supposed to visit each year. My belief is, with the counties rearranged for convenience in travel, little difficulty would be enhanced in having each county society visited one or more times by the councilor, or by his deputy, thus stimulating interest in those groups of medical men and women which forms the very foundation of our state and national organizations. It is impossible for your Secretary to visit many county societies during each year. Invitations are received which, for obvious reasons, cannot be accepted. True it is, during the past year through the good offices of Mr. Blank, Managing Director of the State Society, this office was brought in direct contact with many of our county societies through his personal visitations, all of which unquestionably resulted in reac-

tions favorable to our organization. But what the county societies need is personal supervision and personal contact with the Councilor or his deputy, and to do this with the greatest facility and least inconvenience to the visitor would call for rearrangement of the districts in such a manner as to make the counties more accessible to travel, less scattered and more compact from a district viewpoint.

Experience has taught me that medical men are eager for information. This office has sent out almost countless letters answering queries which have arisen in the minds of various members. The written page is one means of communication; the spoken word is another. Of the two measures, the latter is usually preferable and is far more stimulating in effect. For this reason we cannot give too much credit, for the increased activities in our organization, to the Council and to its deputies, and without fear of contradiction I assert that anything which will enable more personal supervision of county society activities by the Council will result only in good to both county and state organizations.

Last year in my report I touched on some features of a campaign for non-members, and stated that only one county society of the 97 Component County Societies in the state could boast of a 100 per cent membership. Audubon county was the blue ribbon county mentioned, it having every eligible physician within its boundaries enrolled on its membership list. Six counties were also mentioned in which all eligible physicians were members but one, and eight counties were named in which the number of non-members was greater than that of actual members. Evidently the presentation of these facts had a marked stimulative effect, for before the year closed fifteen other county societies had included in their ranks every eligible physician, to-wit: Adair, Adams, Boone, Buchanan, Dickinson, Grundy, Howard, Ida, Jones, Marshall, Monroe, Montgomery, Osceola, Palo Alto and Union. This shows what can be done when a county society chooses to accomplish some specific act. It may not be amiss to here state that on May 1st, the following county societies reported a 100 per cent membership: Adams, Audubon, Chickasaw, Boone, Floyd, Marshall and Osceola. Without question, more names will be added to this list before the year's work is finished and it is to be sincerely hoped that more counties will report full membership as the coming years roll by.

The other side of the picture differs by contrast. No campaign can be successfully waged unless there is a definite objective to be reached. Neither the Council nor your Secretary can hope to assist a county society in a membership campaign when the secretary does not report its list of eligible non-members. So far the following societies have not reported as to the eligibility of non-members: Allamakee, Cass, Franklin, Humboldt, Iowa, Jackson, Jefferson, Shelby, Tama, Taylor and Warren. I feel

that I speak for the officary of the Iowa State Medical Society as a whole when I state that it is the real desire of everyone to see every eligible and reputable physician, who so desires, included in the ranks of organized medicine; but in the endeavor to increase our membership, however laudable that desire may be, no physician who cannot come up to our standard of qualifications should be taken into membership with the idea of reforming him after he has gained admission. The Iowa State Medical Society—rich in its traditions and accomplishments—has never posed as a reformatory and every member of this institution should feel proud and honored in being included in its ranks, and as members we should endeavor always to encourage the eligible, honorable and upright physician to join with us in our labors and privileges, but we should stand with solid front against those who seek admission and yet are unwilling to subscribe to our standards, or live up to the tenets of our profession.

The third Annual Conference of County Secretaries and State Officers was held in Des Moines, at the Hotel Fort Des Moines, December 13, 1928. The deputy Councilors were also invited to attend and to participate in the program activities. The morning's program consisted of a symposium on "The Methods of Coordinating Local Health Activities", and the various phases of the subject were presented by nine speakers. The afternoon's program consisted of talks by Walter L. Bierring, M.D., who kindly consented to fill the hour made vacant by the illness of John M. Dodson, M.D., director of the Bureau of Health and Public Instruction, American Medical Association; by Thomas A. Burcham, M.D., chairman of the Committee on Public Policy and Legislation, and by Henry Albert, M.D., commissioner of the State Department of Health. Eighty-eight persons were in attendance and without question a very valuable day was spent, from which much good should redound to the credit of Iowa medicine.

While there are many things your Secretary could touch upon other than those presented, still in the main they would be but reiterations of problems presented during the past thirteen years and as such would prove wearisome. There is, however, one additional and new feature which I take pleasure in calling to your attention. Through the kindly graces of the Board of Trustees, a Managing Director was appointed last year, in the person of Mr. Vernon Blank. Those of you who have come in personal contact with Mr. Blank know of his enthusiasm, of his constant effort to please and to serve, and of his desire to be of assistance whenever possible. The many details of the Secretary's office have been carefully guarded by the Managing Director and much of the coordinated work between the Council and your Secretary has been materially aided by his efforts. The Iowa State Medical Society, in its business and official affairs, has long since passed the experimental stage and in having a competent individual constantly in the Secretary's office where

the various activities of the officers and committees of the Society eventually center, speaks for the wisdom of the Trustees in appointing a Managing Director. As to the nature of these various activities you will learn from sources other than from your Secretary, and I bespeak your ready approval of these many activities when the same are presented to you by those whom you chose to carry on the work of the Society since we last met, a year ago.

And in conclusion I would state that each of the 97 Component County Medical Societies are organized and functioning, some to a greater, others to a lesser, degree, and that each has sent in the names of delegate and alternate, so there is no excuse for any society not being represented and taking a part in the deliberations of this House of Delegates. Once more I wish to thank the secretaries of the Component County Medical Societies for their cooperation during the past year and to again assure the officers and various committeemen of my appreciation of such efforts as they have rendered in bringing the work of this office to a final and, I trust, a successful fruition.

FINANCIAL STATEMENT IOWA STATE MEDICAL SOCIETY May 1, 1928 to May 1, 1929

Income

Balance in Bank April 30, 1928	\$ 4.56
Dues	16,690.00
Advertising	8,201.13
Honorarium—Advertising Bureau, A. M. A.	427.86
Reprints	816.24
Subscriptions—Non-members	74.00
Sales	11.05
	<hr/>
	\$26,224.84

Disbursements

Discount and Commission to Advertising Bureau	\$ 1,230.47
Paid to Robert L. Parker, Treasurer	24,989.81
	<hr/>
	\$26,220.28
Balance in Bankers Trust Bank April 30, 1929	4.56
	<hr/>
	\$26,224.84

Respectfully submitted,
Tom B. Throckmorton,
Secretary.

The Secretary then rose to a question of personal privilege and moved that telegrams of felicitation and good will be sent to the following sister state societies whose annual meetings were coincident with that of the Iowa State Medical Society: Arkansas Medical Society, Medical Society of the State of California, Kansas Medical Society, Ohio State Medical Association, South Carolina Medical Association, and South Dakota State Medical Association.

On being duly seconded, the motion was carried.

REPORT OF THE TREASURER

Dr. Robert L. Parker, Treasurer, presented his report, which, upon motion duly seconded and car-

ried, was accepted and referred to the Finance Committee.

TREASURER'S REPORT

For the Fiscal Year Ended April 30, 1929

Investment as of April 30, 1928	\$40,553.28
Investment May 1, 1929	42,902.27
Represented by the following:	
Liberty Bonds (face value \$25,000.00)	\$24,806.77
Iowa National Bank—Checking Account	3,645.10
Des Moines Savings Bank & Trust Co.—Savings Account	14,450.40
	<hr/>
Total	\$42,902.27

This report is verified by report of W. Widdup & Company, certified public accountants, Des Moines, Iowa, which report is now in the hands of the Board of Trustees.

I move you, Mr. President, that this report be accepted.

Respectfully submitted,
Robert L. Parker,
Treasurer.

REPORT OF THE COUNCIL

The report of the Council was presented by the chairman, Dr. Channing G. Smith, who moved the acceptance of the report, which included the appointment of a Committee on Medical Economics, to be appointed by the incoming President. Seconded and carried.

REPORT OF THE CHAIRMAN OF THE COUNCIL

Mr. President and Members of the House:

The Council during the past year has shown an increasing interest in medical affairs coming under its jurisdiction. But two general meetings have been held since the last annual session, as it has not been deemed necessary to call the Council together oftener. The first was held September 22, 1928, and was devoted to a discussion of various matters in which the Council is concerned, and the following resolution passed, in accordance with which a committee of three was appointed: Be it resolved by the Council of the Iowa State Medical Society that members of the Iowa State Medical Society should take an increasing part in all public health work, and especially in all lay organizations having to do with public health, prevention of disease, relief of poverty and kindred matters, in order that the medical aspect of these organizations may have intelligent professional advice. The second meeting was held Tuesday, May 7, 1929, at which time the appeal of certain expelled members from the action of the Dubuque County Medical Society and the appeal of a physician denied membership by the society, were considered by the Council and it was voted to sustain the action of the Dubuque Society in both cases.

During a meeting last fall a resolution was passed urging all medical men to take an increased interest in every public health movement, in order that these

movements should have intelligent medical supervision. A committee from the Council was appointed to confer and cooperate with both public and private health agencies. Two meetings of this committee have been held together with representatives of the official and non-official health organizations and we believe some good has been accomplished.

The Society for the Control of Cancer proposed to put on a state-wide program covering this subject, during the month of February. The Council deeming it better to do this work ourselves took over the project and with the very kindly assistance of the Society for the Control of Cancer and Dr. Jepson, together with the help of Mr. Blank and the county secretaries, placed more than forty programs before county societies and lay meetings.

The Councilor districts for no known reason conform to the congressional political subdivisions of our state. Each Councilor is expected to visit each county in his district at least once a year for the purpose of inquiring into the condition of the profession and for improving and increasing the zeal of the county societies and their members. Now to do this entails an unnecessary hardship on some of the Councilors. Councilor Giles Moorehead has in his district thirteen counties, embracing roughly one-sixth the area of the state. Councilor Fred Bowman has eleven counties, seven of them stretching in a straight line for more than two hundred miles across the lower border of the state. Councilor W. W. Beam's district is so large that he could profitably winter in the north and summer in the south of it. Other Councilors have districts equally hard to take care of. Therefore, as at present constituted it is practically impossible for your Councilors to visit their societies as the Constitution prescribes, the Council advises that the state be divided into districts more nearly equal.

The Council is heartily in accord with the action of the Trustees in creating the office of Managing Director of the Society, and in the selection of Mr. Vernon D. Blank to fill this position.

The Council is justly proud of the deputy Councilors. The men selected for this important position have in the majority of instances accepted the post realizing its responsibilities and we have not been disappointed in them. As well as looking after their own counties the deputies have offered constructive advice and have greatly assisted the legislative committee.

The public, the profession, the official and non-official health agencies all wish to know the charges to be made in prevention of disease in mass. The charges heretofore have ranged from nothing, cost of material used, half price, full price and at so much per hour. Because of lack of knowledge of this subject many physicians are losing legitimate fees. Also several organizations in the state are promoting at public expense free clinics, and physicians are asked not only to contribute money for their support and furnish free professional service,

but have been asked in at least one instance to pay for the medicines and dressings that they personally used in the clinic.

Therefore the Council recommends that the House of Delegates instruct the present president-elect to appoint a committee of five, to be called the Committee on Medical Economics. This committee shall carefully consider the whole question of prevention of disease in mass and shall investigate matters affecting the economic status of physicians and shall report to the House of Delegates next year.

Dr. Paul E. Gardner, New Hampton, then moved that the reports of individual Councilors be dispensed with, the same, however, to be included in the printed transactions of the House. Seconded and carried.

REPORT OF COUNCILOR, FIRST DISTRICT

This is similar to previous reports. Your Councilor visited all but two counties in the district. No notice was received of meetings in Washington and Louisa counties. I believe Washington county holds fairly regular meetings, however.

The Southeastern Iowa Medical Society met this year at Fort Madison and brought together, as usual, physicians from this whole district. This meeting was attended by two Councilors outside of my district, Dr. Channing Smith and Dr. S. T. Gray, and by the Managing Director of the Society, Mr. Vernon Blank.

Economic conditions in this district appear somewhat more hopeful, at least in prospect.

Professional activities are, I believe, as great as at any time during my acquaintance in the district.

Respectfully submitted,

Geo. B. Crow,
Councilor, First District.

REPORT OF COUNCILOR, SECOND DISTRICT

The Second District consisting of the counties, Clinton, Johnson, Iowa, Muscatine and Scott, are in a favorable medical situation. Meetings, discussions, programs, are being carried on in the usual way.

Respectfully submitted,

A. P. Donohoe,
Councilor, Second District.

REPORT OF COUNCILOR, THIRD DISTRICT

Since the last annual meeting of the State Society, visits were made by Councilor of the Third District as follows: Clarksville, Waverly, Eagle Grove, Waterloo, Des Moines and Dubuque.

The meeting of Butler County Society at Clarksville was a well attended and interesting meeting. It was a picnic dinner meeting which was enjoyed by the doctors with their families. Things of a constructive nature were discussed such as harmony in the profession, cooperation of society members and the value and need of community hospitals.

The meeting of the Bremer County Society held at Waverly was their usual well attended and interesting meeting.

The meeting of the Blackhawk County Society was held in Waterloo. It was a well attended meeting and it is with pleasure that your Councilor reports the fact that they are developing in their society a constructive type of program with regular meetings and of the most instructive type.

A special meeting was arranged by our President, Doctor McManus with the Dubuque County Society. Besides Dr. McManus, there were present of the state officers: Dr. Channing Smith, President of the Council; Dr. Gray, Secretary of the Council; Tom B. Throckmorton, Secretary; Vernon Blank, Managing Director, and myself, Councilor for Third District. At this meeting a well arranged effort was put forth to bring about a settlement of the troubles existing in that society. While the greater part of the day and the evening were spent, the result of the effort was the usual disappointing one, complete failure. Since this meeting, the expelled members of the society and the applicant who has been denied admission have again appealed their case to their District Councilor, which was forwarded to the President of the Council with recommendations.

Respectfully submitted,
Fred F. Agnew,
Councilor, Third District.

REPORT OF COUNCILOR, FOURTH DISTRICT

During the past year I have attended meetings of several of the ten counties in northeast Iowa belonging to the Fourth District. These which I have attended have been active socially as well as scientifically. There have been no material changes in the condition of this district during the year. A spirit of good fellowship seems to prevail in each county.

I personally, want to thank my nine District Councilors who have assisted me during the past year. Their cooperation has been excellent.

Respectfully submitted,
Paul E. Gardner,
Councilor, Fourth District.

REPORT OF COUNCILOR, FIFTH DISTRICT

The Councilor of the Fifth District reports that during his administration as such, and filling out the unexpired term of Dr. George Crawford, of Cedar Rapids, Iowa, resigned, he made fourteen addresses before community clubs, P. T. A., and county medical societies.

Dr. L. M. Downing reports as Deputy Councilor for Linn county: Number meetings, eight. No meetings held during summer months. Programs seemed much appreciated and well attended. Groups in form of clinics and private examinations. Attempts were made to cooperate with local parent-teachers. Membership—ninety-four. Percentage of

eligibility in county—List sent to Vernon Blank. Activities—No attempt to form contract with county supervisors. Speakers at meetings—Drs. Edmond Andrews, Chicago; Milton Portis, Chicago; Sigfrid Maurey, Chicago; Robert Prebyl, Chicago; Arthur Proetz, St. Louis; Wm. Englebach, St. Louis; M. L. Turner, Des Moines; Anatole Kolodny, Iowa City.

Dr. M. H. Thielen reports as Deputy Councilor for Grundy county: Two general meetings during the past year. One special Heart and Chest Clinic last October. No contract with supervisors. Membership 100 per cent.

Dr. A. A. Pace, Deputy Councilor for Tama county reports, seven meetings during 1928, distributed at various places throughout the county. At each meeting a dinner was held at 6:30 p. m. with the ladies of the members present followed by the regular meeting of the society. Local members furnished all programs with the exception of the one in November when Dr. Aaron C. Conaway and Dr. Royal F. French were the speakers. Average attendance per meeting has been eleven, nearly one-half of the membership. Present membership in good standing is twenty-four with three eligibles who have been members but are now delinquent on account of non-payment of dues. One doctor was refused membership in the society, making a total of twenty-eight practicing physicians in Tama county. As a society there has been no active work done in public health activities. Activities—The society at its December meeting decided to refrain from bidding on pauper work except at regular fees. No doctor in the county put in bids, so that we receive regular fees when we are called to a county case. It seems to be working very satisfactorily with very little criticism even from the board of supervisors.

Dr. R. S. Grossman, Deputy Councilor for Marshall county reports nine regular meetings during the past year, with very good attendance, all meetings being dinner meetings with a program following to which members of adjoining county societies were invited to be present, many availing themselves of the opportunity. The meetings were held in the Georgian room of Hotel Tallcorn in Marshalltown. No meetings were held during July, August and September. Speakers taking part in the scientific meetings were: Drs. Walter L. Bierring, Fred Moore, John Peck, M. M. Myers of Des Moines; Henry Houghton and A. Kolodny of Iowa City; W. L. Shearer and Hoffman, Omaha; Col. George A. Skinner, Corps Area Surgeon 7th Corps Area, Omaha, and Dr. George D. Tarnowsky, Chicago. All doctors in Marshall county who are eligible are members. One hundred per cent. All local, state and national dues and all expenses for talent, dinners, etc., are paid for out of the common fund created by funds received from our county board of supervisors for medical and surgical services to our indigent poor. This plan has been in operation for a number of years and has proven satisfactory both to our so-

ciety and the board of supervisors. The contract has just been renewed for the ensuing year.

Dr. E. J. Van Metre, Deputy Councilor for Cedar county reports nothing done to merit attention but hopes that their county may begin soon to hold meetings. Comment by Councilor—I expect to visit Cedar county and assist them in getting a lot of pep and activity going in this society.

Dr. J. E. Luckey, Deputy Councilor for Benton county reports: No regular meetings for several years. Meeting held May 16, 1928, at which officers were elected and on March 21, 1929, for the report of censors and election of new members. Membership—Repeated attempts made to get a hundred per cent membership. Believe there are twenty-four physicians in the county; two hold their membership in other counties, eighteen belong to Benton Society and four are non-members.

Society activities—None.

Dr. T. M. Redmond, Deputy Councilor for Jones county makes this report: A little more explanation as to the scientific inactiveness of the Jones County Medical Society should be expressed. The Linn County Medical Society hold monthly meetings in the evening with outstanding men on programs. It invites the physicians of Jones county by sending a program to each member of our county society. We have held several of our county society business meetings in Cedar Rapids the hour preceding the Linn county program. The short distance, the paved roads, the Linn county program good, accounts for the apparent (but not real) death of the Jones County Medical Society. Membership—Fourteen eligible physicians in the county of which twelve are members of the society. Society activities—No contract with supervisors for care of poor. A baby clinic was held two years ago and a heart clinic was held three years ago.

I feel that this report is very comprehensive and very enlightening. It covers the entire situation in the Fifth District and some of it has been rather difficult to secure. When we take in consideration that the county medical society is the foundation and basic unit of the entire system of organized medicine, it can readily be seen that at least some of the counties in the Fifth District, and I presume over the entire state as well, are falling down on their responsibility.

I would like to suggest that the executive secretary get together the data on all delinquent county societies and that each be directed to hold at least one meeting of the county society at which meeting the Councilor for the district will be invited to and must be present. At such a meeting the Councilor could discuss the matter thoroughly with the members of the society and perhaps be instrumental in getting enough enthusiasm by telling of the activities of the live societies to make an active organization from a dead one.

I have been very much interested in the data which has been secured and the difficulties encountered to

secure the same, three and four letters and in some instances more being required to secure an answer.

As for my district I will be only too happy to visit any county society at any time if the members feel that constructive work can be done.

Respectfully submitted,

Aaron C. Conaway,
Councilor, Fifth District.

REPORT OF COUNCILOR, SIXTH DISTRICT

The membership of this district is reported as one hundred and forty-one. This is practically the normal membership. There have been only four new members. This shows that there have been very few young physicians locating in this district. There has been a small decrease on account of deaths and removals.

Three of the counties reported very successful cancer meetings. In the majority of the counties, there is a good fraternal feeling and no dissatisfaction among the physicians.

The indigent are taken care of in one county in a satisfactory way by a social service bureau. The question of the care of the poor is the most important problem of the counties of this district and very unsatisfactory to the public and the physicians. The public deserves a better method and the physicians are demanding a change.

The most plausible solution suggested and tried for this problem is for the county medical society to contract for this work. It would be well for each society to consider this fully and be prepared to act in this matter as it thinks best for next year. There should be a definite policy adopted by most of the counties for their problem is the same.

There has been some complaint of members consulting with cults. Chapter I, Sec. 3 of the State By-laws says, "Any person who counsels with any person practicing the methods of any cult not recognized, or taught in standardized medical colleges, shall be expelled from membership in the society". This makes it clear where the State Society stands, and any member should consider seriously what membership in his society means to him.

The counties are all well organized. The membership consists of about all the eligible physicians of the district. It is impossible and not logical for organized medicine to have one hundred per cent of licensed physicians members. Some physicians have never realized any advantage in society membership and do not consider it worth while to pay the dues. Others are not members for ethical reasons.

Membership in a county medical society should mean something to a physician. If everybody can belong irrespective of what they do, or whether they assume any responsibility, it lowers the whole standard of the society and there will soon be little interest.

A county medical society can be top heavy with dead weight. A medical society well organized with a good president and secretary can be a strong society with few members. There will be no increase

of physicians in this district. There is a gradual decrease.

The physicians must adjust themselves to this condition and keep up their local organization with fewer members. The local unit is the most important of the whole scheme of organized medicine, and the physician must realize this is his only avenue to membership. His society may be small, but it is the whole thing to him and he cannot afford to let it go down or drop out of it. He must appreciate what it means to be a member of the great medical organization, and it is his duty to keep the local unit strong and worth while.

This is a district of good progressive societies, but more than half the counties report poor interest. The physicians are not willing to write papers that are worth while for a poor attendance and they do not feel like inviting an outside physician for the few who might attend. The local society is for the local physician and it must be carried on to make it interesting and beneficial to him. No one else can come in and tell him what he must do. He must work out his own program. This program must be different from what it has been in the past.

Scientific papers will not keep up a small local medical society. The large medical societies furnish an abundance of this. District medical societies could furnish good programs. Members of the medical profession are the most social of any body of men when they are away from home and mingling with those whom they do not come in contact with in a professional way. This spirit of sociability and good fellowship should be cultivated at home first. The county society with the members in harmony and working in unison will mean more to the local physician than any other thing he may do for the same time and money expended. The physician must learn to spend more time and money on his profession for his own benefit and social welfare.

When the physician fully realizes the importance of his local society and has his mind and interest in it, and puts it first among all his obligations to himself and to his fellow members, there will be no county society so small but what it will be strong and in a flourishing condition; helpful to each member and a power for good in the community.

The social and economic features must be the prominent part of the county medical society in the future. A banquet where each member pledges himself he will attend for a social season followed by a round-table talk, report of cases and any question of local interest to the physician, or whatever may suggest itself as being beneficial will keep any county medical society in good live condition.

The whole medical profession is just as strong as the small local units of which it is made. The reputation and the service of the profession exists in the small unit. The work, the welfare, success, and professional standing of the physician is where he lives. There is no one in another state or even another county who is doing much for his social or economic

good. Why should he not then, together with the few others of his profession, make the best of his only opportunity for his greatest success.

Physicians have been filled up with so much propaganda about their individual inferiority and their duty to send their patients away from home, for poorer treatment, that they hardly think it is worth while to carry on at home and of course do not much feel the need of a local society.

The local physician's only hope of holding his own in his own community and of the people getting the medical service to which they are entitled is for the few physicians in a county to be united in a strong county organization.

The physicians of each county are located there because there is a duty to be performed in healing the sick. They are trained for this service and for the best interests of the people are entitled to this work. There are plenty of outside agencies drawing on this territory to the detriment of both the public and the physician. There is no local agency but the few physicians who are concerned about the interests of the people and the physicians. Then why should not the physicians be united in protecting their own people and themselves?

There are some groups, some institutions, and some agencies enlightening the people all the time just where they should go for treatment of their ills, always disparaging the local physician. The local physician should be ethical to the last word and the other agencies do as they please and are too big to be governed by ordinary ethical rules.

The whole thing is false and pure bunk. The one hundred and forty-one physicians of the county societies of the Sixth District could take care of every person in this district for every ailment which they might have, better than if they should all go to some large center in some other state. The people of this district are spending their money for inferior foreign service when they would receive better treatment at home by their family physician who has a personal altruistic interest in their welfare rather than a purely selfish one.

The time will never come when all the sick people can be transported to some central point, and be for the best interests of the public. The members of the county medical societies should wake up and take care of their own business. It is their fault if they do not, for they have the first opportunity. They owe it to their clientele and to themselves. This is the solution of the active progressive county medical society's existence.

With the efficient and willing help of the secretaries and deputy councilors, organized medicine in this district is in good condition and the signs are favorable for a more active interest in medical problems dealing with the healing of the sick and the welfare of the public than ever before.

Respectfully submitted,

S. T. Gray,
Councilor, Sixth District.

REPORT OF COUNCILOR, SEVENTH DISTRICT

All the counties in this district are organized and functioning. Four societies are very good, one is fair and one is very poor. Over the whole district there is a gradually increasing interest in medical affairs. Particularly is this true of the legislative and financial matters that concern the profession. But few new physicians have moved into the district and we have lost several good men by death.

Respectfully submitted,
Channing G. Smith,
Councilor, Seventh District.

REPORT OF COUNCILOR, EIGHTH DISTRICT

I am only able to give report of nine of the eleven counties which I represent. The following counties have reported: Decatur, Fremont, Adams, Wayne, Page, Appanoose, Ringgold, Clarke and Lucas.

From the reports given from the assistant councilors, conditions are about the same as they were last year. There has only been fair attendance at their various county meetings and most of them attribute that to the condition of the roads last fall and this spring. Appanoose has discontinued their meetings entirely. Union and Clark had very few meetings, only one or two meetings a year. Lucas probably shows the best attendance and has had the most meetings of any of the counties in the district.

I will say that this report is not encouraging but I don't see how the matter could be remedied. No Councilor or assistant Councilor can create a meeting unless the members are willing to have it.

I have no report from Union or Taylor county.

Respectfully submitted,
Fred A. Bowman,
Councilor, Eighth District.

REPORT OF COUNCILOR, NINTH DISTRICT To the Officers and Members of the Iowa State Medical Society:

Your Councilor for the Ninth District would respectfully report that the Ninth District is well organized in every way. Every county has a functioning society and nearly all the men eligible for membership in the county are members of the society. There is always a good representation of the men from this district at the annual meeting of the State Society, and the men from this district are on the average of high professional attainments, well qualified to serve their clients in a highly efficient manner and with a thorough appreciation of their duties to their profession and society.

Respectfully submitted,
Henry B. Jennings,
Councilor, Ninth District.

REPORT OF COUNCILOR, TENTH DISTRICT

I wish to report that all the county medical societies in the Tenth District are in good condition, and are unusually interested in organized medicine.

The per cent of eligible doctors who are not members has been noticeably smaller since my last report. A detailed minute report of the individual county societies is unnecessary as they are all in good working condition with no serious trouble of any kind. I am pleased to submit the above report.

Respectfully submitted,
W. W. Beam,
Councilor, Tenth District.

REPORT OF COUNCILOR, ELEVENTH DISTRICT

Being advised that Councilors' reports were not desired this year, "but better prepare one in case there was a change of opinion" has acted as a great inspiration to me and brought out more vividly than usual the condition of the profession in northwestern Iowa.

Upon inquiry of the average physician as to "how things are going", the usual reply is "Oh, so so":

"Do you find the amount of sickness in your locality about the same as last year?" "Yes, except the usual case is shorter in duration and not as serious as a few years ago."

"How about epidemics the past year?" "Just a few cases and the eruptive diseases very mild."

"Are your people going to the medical centers for examinations more frequently?" "Yes, and for a wider range of troubles."

"How about consultations?" "If I can't handle a case satisfactorily I refer it to a city physician and avoid local complications."

"Are many taking post-graduate work?" "No, if I have time to go anywhere I feel better to take a vacation trip with the family."

"What do you think of the new county unit law?" "Don't know anything about it; did it pass?"

I find there is a steady improvement in the general makeup of physicians' offices, much more modern electric therapy equipment and an ever decreasing use of drugs. An occasional private hospital is curtailing all major surgical work and caring for more obstetrical cases. A few towns are without physicians and becoming attractive to osteopaths and chiropractors. Practically no new graduates are going into the smaller towns and but few to county seat towns. Most of them locate in Sioux City. There is practically no retirement of the older doctors except by death, the average age of our physicians is increasing. Especially is this true outside of Sioux City. There is some tendency to reversal to the old time physician, more detail examinations, more explicit directions, more detail as to care and feeding, adding to the attitude of the physician the attribute of the friend.

Respectfully submitted,
G. C. Moorhead,
Councilor, Eleventh District.

REPORT OF THE BOARD OF TRUSTEES

The report of the Board of Trustees was presented by Dr. John F. Herrick, Ottumwa, who moved that

the same be received and placed on file. Seconded and carried.

REPORT OF THE BOARD OF TRUSTEES

The practice of medicine is undergoing such revolutionary changes that it is difficult from year to year to make satisfactory adjustments. Your Board of Trustees have kept in mind always the welfare of the people of our state. They have been actuated by the desire to keep the profession of Iowa where it has always been—in a leading position. Several meetings have been held since our last annual meeting, to which the officers of the Society were invited, as well as the Legislative Committee, the chairman of the Board of Councilors and others who might aid by their advice.

A few important changes were made in some departments of the Society. The duties of the Secretary had become so heavy that he requested at the meeting at Cedar Rapids that he be relieved. Your honorable body felt it could not afford to lose the services of one who so efficiently executed his duties as secretary and so honorably represented the Society in national meetings. Therefore it authorized the Board of Trustees to employ a Managing Director to assume certain of the secretary's duties and such other duties as should be assigned him by the Trustees. After due consideration the Board of Trustees at a meeting June 17, 1928, selected Vernon D. Blank as Managing Director at a salary of \$6,000 per year. The selection was made from a list of several applicants for the position, all of whom had good recommendations. Mr. Blank has worked industriously at the Society's business since July 1, 1928, and we believe much to the good of the Society. Mr. Blank will make a report of his work.

The Journal of the Iowa State Medical Society is the most important link in binding the profession of the state into an efficient functioning body. The success of the Journal in the past has been intimately dependent on the untiring, faithful labors of our honored colleague, Dr. D. S. Fairchild, than whom no one has done more for our Society. The Board of Trustees feel that to longer burden Dr. Fairchild with the active editorship of the Journal would be an injustice. It therefore at the June 17, 1928, meeting elected him "Editor Emeritus" with a modest stipend and requested that he continue his researches in the history of medicine in Iowa. Dr. R. R. Simmons of Des Moines was selected as Editor of the Journal at a salary of \$800 per year. In cooperation with the editor some changes in the form and contents of the Journal were made, which we hope will meet with your approval.

At the meeting of the Board, January 21, 1929, the offices of the Society were moved to more convenient quarters in the Bankers Trust building in Des Moines at a very slight increase in cost. Some steel filing shelves were ordered, also an additional desk and typewriter, which were urgently needed.

It has been a pleasure to serve with so earnest and efficient men as make up the various committees as

Medico-Legal, Legislative, Board of Councilors, and the officers of the Society. We wish to thank them for their advice and assistance. Each of these committees will have reports of their activities. Therefore it is unnecessary to take the matter up here.

Thanking the House of Delegates for the opportunity to give our service to the Society we submit this report.

O. J. Fay, Chairman,
V. L. Treynor, Trustee,
J. F. Herrick, Trustee.

REPORT OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

The report of the Delegates to the A. M. A. was presented by Dr. Bert L. Eiker, Leon, who moved that the report be accepted and placed on file. Seconded and carried.

Mr. President and Members of the House of Delegates of the Iowa State Medical Society:

The House of Delegates of the American Medical Association met in annual session at the Nicollet Hotel in Minneapolis, Minnesota, June 11, 1928, and was called to order by the speaker of the house, F. C. Warnshuis, at ten o'clock a. m. The temporary report of the credentials committee showed the required majority of members present and the house at once proceeded to the regular business.

The speaker advocated in his address that the annual address of the speaker should be confined to parliamentary usage and matters pertaining to the business of the House of Delegates and not include the working of the association in general. The recommendation was concurred in by the reference committee and the report of the committee unanimously adopted by the house.

In his address, the president called attention to the abuse of free clinics and reminded the profession that free clinics could not exist unless some doctor or doctors worked for nothing. He also said that hospital expenses had increased until they had become a problem to both patient and hospital alike.

The president-elect sounded the warning that members must not allow special associations to take away their interest from the American Medical Association because it was to this association that the public and the profession must look for timely progress, counsel and advice.

In regard to relief of disaster, it is recommended that the president of the county medical society wherein the disaster occurs shall at once take charge in person or shall appoint someone to take charge and mobilize the medical forces and facilities in the manner which seems best suited to meet the needs of the hour; his authority to continue until he is relieved by the government or someone authorized to act.

Our delegate selected to represent the profession of the United States in the national organization of our sister republic, Mexico, reported that he received the most cordial treatment and that the kind

and quality of work done at the annual meeting was of the highest type.

The secretary reported that he had complied with the instructions given him to make inquiry into the advisability of establishing a home for indigent physicians and advised that each constituent state association be left free to decide for itself whether or not some plan should be taken up for the relief of physicians in need. After much discussion, the matter was referred to a committee of five to report its findings at the next annual meeting.

The board of trustees reported that the American Medical Journal continued to grow and that Hygeia had at last reached a paying basis. It also reported that there seemed to be a growing interest in periodic health examinations, that the need of physical therapy has reached a place where much good can be accomplished and that it is deserving of careful consideration by the profession.

The trustees recommended that legislation be enacted in the various states making certain minimum requirements for the establishing of schools teaching the healing art. Relative to the use of heroin the report says in substance that the council on pharmacy and chemistry does not consider heroin therapeutically indispensable and approves the law prohibiting its importation.

The council on medical education and hospitals reports that they disapprove of institutes and companies practicing medicine, that the practice is an individual matter between doctor and patient and should remain so. Hospitals are increasing in number all over the United States and the council recommended that the American Medical Association classify the same and that their control should be a matter of state legislation.

The lack of physicians in rural districts is not so bad as reputed in many instances and the number of medical cults is diminishing as is also the number of their matriculants. A letter from the Grange complaining of a lack of physicians in rural communities and asking the American Medical Association for relief was discussed at length and further investigation ordered.

The president of the Woman's Auxiliary reported that thirty-one states had been organized and that they were trying to get every doctor's wife interested in helping with health programs in the various clubs to which she belonged.

The constitution and by-laws of the House of Delegates of the American Medical Association provide that the total membership of the house shall not exceed one hundred seventy-five. The by-laws provide that every third year a re-apportionment of delegates shall be made. The total membership of the American Medical Association has increased until in order to keep the number within the prescribed limit, there must be one delegate for every seven hundred seventy-five. This increase causes Iowa to lose one delegate, so that at the next session our state will have only three members.

All the delegates from Iowa were present and worked and voted as a unit.

The following officers were elected for the ensuing year:

President-elect—M. L. Harris, Chicago, Illinois.

Vice-president—W. A. Jones, Minneapolis, Minnesota.

Secretary—Olin West, Chicago, Illinois.

Treasurer—Austin A. Hayden, Chicago, Illinois.

Speaker of the House of Delegates—F. C. Warnshius, Grand Rapids, Michigan.

Vice-Speaker of the House of Delegates—A. H. Bunce, Atlanta, Georgia.

Board of Trustees—Term expires 1933—J. H. Walsh, Chicago, Illinois; A. R. Mitchell, Lincoln, Nebraska.

Judicial Council—F. W. Cregor, Indianapolis, Indiana; James B. Herrick, Chicago, Illinois.

Council on Medical Education and Hospitals—R. Fitz, Boston, Massachusetts.

Council on Scientific Assembly—R. S. Morris, Cincinnati, Ohio.

Portland and Atlantic City were selected by the trustees as the possible places for the next meeting and Portland, Oregon, was decided upon as the 1929 meeting place.

Respectfully submitted,

Wm. Jepson,

Thos. F. Thornton,

Donald Macrae, Jr.,

B. L. Eiker.

MEDICO-LEGAL COMMITTEE

Under the head of Standing Committees, Dr. Frank A. Ely, Chairman, presented the report of the Medico-Legal Committee, which upon motion, duly seconded and carried, was accepted and placed on file.

REPORT OF THE MEDICO-LEGAL COMMITTEE

The Medico-Legal Committee has no matters of great importance to report. The year's work has been rather uneventful. There are, however, two or three observations which may possibly be worthy of comment.

During the year, a settlement had to be made out of court as the result of a rather unusual circumstance. A member of the Society was requested by a brother practitioner to perform a sacral puncture for the purpose of injecting a one-half per cent novocaine solution into the sacral cistern for the relief of an intractable sciatic syndrome. The puncture was done in a manner surgically approved. The patient, during the injection, became faint, pale, and complained of some pain. The injection was discontinued upon the first evidence of untoward symptoms. Following the procedure, symptoms of a cauda equina paralysis developed. A small cutaneous necrotic area later appeared at the point where the needle had been introduced. By degrees, over a period of ten or twelve months, the paralysis

cleared up, but there has never been full return of bladder function. Suit was brought against the physician who performed the puncture. Upon investigation, it appears that there was nothing whatever to criticize in the technique of the puncture, and as a matter of fact, no liability should have been ascribed to the operator, but a question arose as to the character of the solution given the operator by the operating room nurse. The operator called for a one-half per cent novocaine solution, and when it was handed to him, he assumed that he got what he called for. The whole case hinged upon whether or no the operator had used due care in making sure of the solution used. The evidence by no means conclusively incriminated the solution, since persistent sciatic syndromata are frequently the result of neoplasms in the sacral cistern, and the needle may have pierced a neoplasm, or the solution may have so displaced a neoplasm, as to have brought on the paralysis. Be this as it may, the fact still remains that a wrong solution may have been handed to the operator in this case. This episode is brought to your attention with a view to warning all operators to see to it that operating room nurses keep on their guard against supplying wrong solutions.

During the past year, on two occasions, your committee has had strong suspicions that personal animosities between physicians have been factors in making satisfactory adjustments less possible. To physicians who are inclined to vent their spleen on their brother practitioners by fostering damage suits, be it said, "Let him that standeth take heed lest he fall".

In one instance during the year, a damage suit was threatened because of the development of a telangiectasis, following x-ray treatments given for some skin disease. There can be little doubt but that the dosages of x-ray cannot be so accurately gauged as to prevent such an occurrence, but it would seem that much trouble might be averted if a more thorough understanding of the possible minor consequences of such treatments could be given patients prior to their administration. Experience teaches that foresight and a good prognosis often block the way of subsequent litigation.

It has been brought to the attention of your committee that there are many members of our association who are practicing medicine outside of the state of Iowa. These physicians, being members of the Society, are privileged to participate in its medical defense features. Inasmuch as some of them are far removed from our legal representative, and inasmuch as the cost of medical defense might be greatly increased were we obliged to defend them in the states in which they are practicing, it has been deemed wise to propose an amendment to the by-laws of the association, excluding obviously non-resident members from participation in said medical defense privileges. Pursuant thereto, your committee hereby recommends that such an amendment be proposed from the floor of this House of Delegates.

In concluding this report, your committee wishes to remind you that our profession stands or falls according to its honesty and integrity. It is the duty of every member of the association to protect his fellow practitioners against unjust and predatory damage suits, but it must not be forgotten that some malpractice procedures are justified, and that under such circumstances it is our duty to play fair with the public.

Respectfully submitted,

F. A. Ely,

H. B. Jennings.

Dr. Thomas A. Burcham, Chairman of the Committee on Public Policy and Legislation, suggested that owing to the lateness of the hour his report be deferred until the meeting of the House on Thursday morning.

Dr. Evan S. Evans, Grinnell, moved that the Committee's report be so deferred, which upon being duly seconded, was carried.

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

Dr. Vernon L. Treynor, Council Bluffs, Chairman, requested Dr. Tom B. Throckmorton, a member of the Committee, to present its report. The following amendments to the By-Laws were then read:

Chapter I, Section 5, Page 9, by adding the following: "Should a member in good standing move to another state, such member shall not be entitled to medico-legal defense for any professional act arising after his removal from this state."

Chapter VII, Section 3, Page 18, by striking out the sentence "All questions of an ethical nature brought before the House of Delegates of the general meeting shall be referred to the Council without discussion", and substituting in lieu thereof, the following:

"All questions of an ethical nature, whether brought before the House of Delegates, before a general meeting of the Society, or otherwise, shall be referred to the Council without discussion. The Council shall be governed in all such instances by the principles as set forth in the Code of Ethics of the American Medical Association, and its findings in all such cases shall be final."

Chapter XII, Section 6, Page 24, by striking out the words in the last two lines—"and to the House of Delegates."

Chapter XII, Section 7, Page 24, by adding to the beginning of the Section the following:

"In hearing appeals the Secretary of the Council shall notify each Councilor of the date of the meeting and of its purpose—in case the same is other than the Annual Session of the Society—and a majority of the Councilors shall be in attendance to constitute a quorum."

By striking out the following words now beginning Section 7—"In hearing appeals."

By adding to the end of the Section the following: "If all efforts at conciliation and compromise fail,

the Council shall decide what action shall be taken, and its action shall be final."

Chapter XII, Section 8, Page 25, by adding the following:

"If objection is made by a member of a County Society to the transference of the name of a physician to its roster, the Society shall determine by vote whether it shall receive the physician, requesting such transference, to membership. Should the vote of the Society be unfavorable, the membership of the physician, requesting such transference, shall remain in the Society of the county from which he came."

Chapter XII, Section 11, Page 25, by adding after the word delegate in the eleventh line, the following words: "And an alternate delegate."

Under the By-Laws concerning amendments, the proposed changes were laid on the table for consideration at the Thursday morning meeting.

REPORT OF THE COMMITTEE ON PUBLICATION

The report of the Publication Committee was presented by Dr. R. R. Simmons, Editor, who moved the acceptance of the report and that the same be placed on file. Seconded and carried.

The Publication Committee respectfully submit the following report:

Since our annual session last year, a change in the editorship of our official organ has been necessitated by the retirement of Dr. David S. Fairchild, who for the past fourteen years edited the Journal in a highly satisfactory manner. This change was made on July 1; the work at that time being placed in the hands of the Associate Editor, retaining Dr. Fairchild as Editor Emeritus and Historian.

During the past nine months, several changes have seemed desirable both in the form and the editorial policy of the Journal. You are no doubt familiar with the change in physical appearance—the removal of advertising from the front cover, the use of heavier stock as cover material, the attempt at departmentalization of the reading matter and the use of new type forms for many title headings.

Our editorial policy has undergone perhaps as significant a change, but perhaps not such an obvious one. We are continuing to publish the papers read before the annual session, but are attempting to use as well such outstanding papers as we have been able to obtain from meetings of less magnitude throughout the state. The formal editorials are, in many instances, prepared by a specialist in the subject treated, and embody his latest information on that subject. Our purpose in this regard is to furnish particularly the general practitioner with epitomized information supplied by a specialist on current medical topics.

Society news and society proceedings have been edited by our executive manager, Mr. Blank, and as a result of his personal contact with many of the county societies, this section has now become worthy of its name.

For the most part, deaths occurring within our ranks are reported in the Journal in a very brief and formal fashion. However, in certain instances, we are requesting more complete obituaries, and our Editor Emeritus, Dr. Fairchild, has cooperated with us in furnishing such material.

Minor changes have been made in the treatment of newer books received from the publishers. The attempt is being made to distribute these books to the end that the reviews be made, insofar as possible, by a member of the Society particularly interested in the subject treated. We feel that this will make this section of the Journal a more useful guide in the selection of new books than any other system yet employed.

Personally, your Editor wishes each reader and member of our great state organization to feel that the editorship of the Journal is his or her responsibility, and that in the conduct of my office I am acting purely as your representative. Suggestions and constructive criticisms are solicited, and your full cooperation sought in the discharge of this most important trust.

A full financial statement of Journal accounts will be furnished in the report of the Treasurer.

Respectfully submitted,

R. R. Simmons.

Under the heading of Special Committees no reports were presented by the Committees on Medical Library, Military Affairs, or Hospitals.

NEW BUSINESS

The report of Mr. Vernon D. Blank, Managing Director of the Society, was then presented.

Secretary Throckmorton moved the acceptance of the report, and that the same be placed on file. Seconded and carried.

REPORT OF MANAGING DIRECTOR

No organization should spend money for a paid executive unless it can thereby function more economically and effectively. The first purpose of our managing director has been to serve as general executive for each officer and committee of the Society. Executive is used in the sense of putting into operation the programs of the various committees and officers, relieving particularly the volunteer officers and committee members of all possible detail work. The most precious possession of the Iowa State Medical Society is the time, and thought, and energy, which so many of its members are willing to contribute for the betterment of the profession.

These men are giving their services without monetary reward and often without recognition. They should be freed of every task which can be delegated to another. It is imperative that there be left to them only those important and difficult undertakings for which they are specially fitted by virtue of their office and of those personal qualities on account of which this Society has so honored them.

This may produce untold progress because if a committee member or officer is relieved of details he will then be free to undertake things which otherwise he never could have done in his limited time. Furthermore it is not only a more efficient means of operating but it should make the task of the volunteer committee member or officer both pleasanter and more fruitful.

Next in importance is the task of seeing to it that the Society is operated on a sound business basis and that results are produced as economically as possible. Costs have been kept low as possible and income has been increased. The first step in increasing income was to make better collections. On one day last summer we sent out statements totaling \$2,500 for reprints, professional cards in the Journal, and for regular Journal advertising, all delinquent, and for none of which a statement had ever been sent so far as I could discover. We have but two such accounts today. One of which is probably a dead loss, and the other a slow but sure account.

The receipts from memberships have been increased through the membership invitation week conducted last fall at the suggestion of your president. One hundred fifty new members have thus far been paid for as a result of that campaign, and by the time all county societies have remitted 1929 dues this increase should near the two hundred mark. Some additional advertising has been secured for the Journal and it will be possible to further increase revenues from this direction. This dual effort to keep down costs and increase income has been thus far successful, the treasurer's report showing that despite the additional \$5,000 paid the managing director, the Society has on hand \$2,000 more today than a year ago.

Under this general program I have endeavored to economically and effectively assist the committees and officers of this Society to perform the various duties delegated them by the Constitution and By-Laws. This has in some cases and at certain points along the line been more or less difficult, not for any personal reasons but because of the somewhat diffuse organization of the Society. In this connection, one of the great services which a general executive can render when all committees and officers clear their activities through one office, is through the avoidance of duplication, conflict, and oversight.

But just as the whole structure of the State Society exists only to serve the component units and the individual members, so the true test of the executive office is the service delivered to the county societies and their members. The most continuous contact between the state organization and its individual members is of course through the Journal. Under the able leadership of Dr. Simmons a varied program has been mapped out. We have tried definitely to make the Journal a source of reference and news, as well as of scientific information. Since your Journal accepts only council approved products, its advertising pages should serve as a continuous scientific exhibit. For your easier reference the

advertisements have been classified by products, and are monthly indexed. Every county society news item that comes to our attention is printed. We have a newspaper clipping service but it is far from getting all the news. Several of the secretaries send well written, interesting reports of their meetings and we hope that more will do so in the future. We are endeavoring to make the Journal a clearing house of county society activities so that progress which some counties are making in public health relations and in various phases of medical economics may be passed on to the sister societies. Of a personal nature are the news notes that appear monthly and the want ad column which is growing and continually producing more replies so that it is on the way to become a professional placing bureau. The larger aspects of the new policy, the book reviews, the editorials and scientific papers are best left to description by the editor, since it is for the dissemination of scientific information that the Journal primarily exists. Evidence is accumulating to show that the Journal is being more and more read. That the Journal may become a vital thing in the life of every member of this Society is the hope of your editor and his assistant. My specific duties are manager of advertising, preparation of society, personal, and miscellaneous news items, proof reading, and make-up.

Important as the scientific pages of the Journal and the scientific meetings of the state session it still remains that the vast majority of all scientific matters and discussions is represented by the county society programs. A few societies meet but once or twice a year, but the bulk of them in Iowa convene between four and ten times, yearly, and I would estimate that there are nearly five hundred county and district society meetings held annually in the state. If the average attendance is between fifteen and twenty, we would have a total aggregation of eight or ten thousand auditors, beside which this state session is a very small affair. Consequently the supplying of county society programs is an undertaking of first importance, and the council is promoting a speakers bureau which will supply scientific papers or programs for the component societies. Forty-one such programs were furnished on the subject of cancer, principally during the month of February; and about twenty-five other programs have been contributed to, generally in the field of medical economics. A list of qualified speakers is being prepared and in the future this development should be of great value. This same speakers bureau is preparing to supply qualified physician speakers for lay gatherings. In this day when quackery is being spread through women's clubs and public gatherings by clever orators, such a lay speakers bureau is a vital necessity. Certainly no greater service could be rendered to the individual physician of this state than to educate his public as to the true merits and possibilities of scientific medicine. Calls are already coming in and the public health relations committee of the council has established contact

with a number of state organizations and clubs interested in public health through which the speakers bureau can arrange for talks on health and hygiene, and merits of scientific medicine to be made before lay audiences, women's clubs, P. T. A., etc. Your managing director made an announcement of this sort at the last annual meeting of the Iowa Tuberculosis Association and is to make a similar statement at the Iowa district meeting of the Lions Club next week. It is hoped that before the end of this year a large number of health educational addresses will have been made by members of this Society.

One of the profoundest problems confronting physicians today in the local communities is that of public health relations and care of the indigent sick, since either difficulty if not properly met may head us toward state medicine. The council, a sub-committee on public health relations, and especially the chairman, have gone into this question during the past year and we have worked out a number of recommendations that have already proven highly serviceable to various county societies in developing better public health relations, in making sure that the medical profession is not misunderstood nor willfully misrepresented in a community, and most of all in making certain that public health activities are properly conducted. A special committee of the council set about last fall to develop a close relationship with the various state organizations engaged in health work. At two meetings called by the Council Committee, standards of procedure were discussed, and at other meetings the Chairman of the Council and others have explained to various social workers, nurses, etc., just how to proceed in order that their activities have proper medical supervision in their communities. Neither council nor the committee has thus far endeavored to set up standards in immunization or health examination work, co-operation with nurses, social workers, etc., for this is a large field which should be carefully studied by a properly constituted committee of this Society. But it has been insisted that every P. T. A., women's club, Red Cross Nursing Association, etc., should consult the county medical society before formulating definite plans and that public health nurses, and social workers, should endeavor to secure the appointment of advisory committees by the county medical society. The county societies on the other hand have been urged to create such public health relations committees to properly advise and guide such lay health work.

In the matter of caring for the indigent sick progress has been made. A study indicated that at least five societies had found an apparent solution through a blanket contract with the county supervisors or the city. Such contracts pay a lump sum to the county medical society which in turn furnishes medical service to those persons who are charges of the county. We secured from each of these societies a copy of their contract and also of the articles of incorporation. These were used as the basis for a model contract and articles drawn up by legal

counsel employed for the purpose; and have been supplied to six other counties contemplating blanket contract, one of these has just recently concluded its arrangements with the supervisors.

The report of the legislative committee will describe the complicated task which this year confronted your committee and your representative in the third house, as the lobbyists are called. No report, however, could give an accurate picture of the tremendous amount of detail work which we had to do in securing passage of the three measures in which the Society was interested. In fact during the ninety day session I spent approximately two-thirds of my time at the state house. This work, therefore, cost the Society one thousand dollars in salary which, however, is probably cheaper than hiring a special attorney lobbyist, one of whom, when consulted about one of the measures only, indicated that an expenditure of some fifteen hundred dollars would be the normal thing for a bill of that type. Having such work in the hands of a general executive furthermore gives a dignity to your relationship with the legislature which is lacking when a specially employed attorney does the work. Most important of all we can and should maintain a more or less constant contact with our legislative friends between sessions. Each county society should carefully check the record of its representative and senator and determine to become interested in local politics if such record requires it. Dr. Burcham and I have prepared a digest of the votes upon the workmen's compensation, the county health unit, and the law enforcement measures, and they will soon be distributed. Furthermore it is hoped that the legislative committee can through its personnel or the managing director report in some detail to every county society between now and the next primaries. The medical profession can never enter politics in the sense that it could align itself with any party, but it can and must enter politics with the determination of seeing to it that the various counties and districts of this state are represented by the best possible men. If men of high intelligence and moral integrity are sent to the legislature, the medical profession will have nothing to fear. Men of that type will naturally be open minded and, of course, the medical profession will never ask of the legislature anything selfish, nor unjust. I believe there is no doubt but that the members of a medical society can be the most powerful political influence in that county. Every member of this State Society has a civic as well as a professional obligation to work energetically and judiciously to have the right men represent his community.

Carrying out the various parts of this rather complex program involved attendance at numerous committee meetings, many personal conferences, a considerable correspondence, and some traveling to visit county societies. Many of these interviews and an appreciable portion of the correspondence had to do with services rendered individual members. This is a routine but pleasant part of my

duties for I feel that in rendering such services the state office is in a measure justifying its existence. The letter files show that from July 1st, when I took up my duties until May 1st, one thousand five hundred and thirty-six personal letters were written. In addition the State Secretary dictated one hundred forty-five letters. It would be difficult to divide the total volume of correspondence to show the relative demands of the different activities, but approximately two hundred of the fifteen hundred dealt with routine secretarial matters which the managing director could properly handle. Approximately two hundred and fifty letters were written in connection with legislative activities, some three hundred in connection with the Journal; and the balance, or about eight hundred, were written in carrying on the affairs of the Council, including the speakers bureau, public health activities, county society problems, etc. In addition there were sent out five thousand seven hundred seventy-two circular or form letters, many in connection with legislation.

We have endeavored to build this structure upon sound business procedure in the office. Record systems have been set up to carefully follow up collections and our general accounting system was improved so that the treasurer and trustees could have monthly classified statements of income and expenditures. Various other details of valuable but routine nature have been worked out. The most important single improvement in the records was developed in connection with the membership campaign. When President McManus first outlined to me his plan for inviting into membership all eligible non-members in the state, he emphasized the fact that the county society board of censors must pass upon the eligibility of each non-member. This at first seemed a serious obstacle. However, the by-laws require that the Secretary's office maintain a list of all licensed physicians, arranged by counties, with the non-members kept separate and their eligibility or non-eligibility definitely indicated. I set about securing this information. This list is still incomplete as a dozen counties have yet to report the status of their non-members; but the whole membership campaign proceeded in strictly proper manner. I believe that no unduly urgent invitations were ever extended, and no complaint of any sort in connection with it has come to my attention. Iowa now has an exceptionally high percentage of eligible physicians as members. I am informed that it stands near the top of all the states in the union, and I am sure that our president can look back upon this membership campaign of his as one of the outstanding accomplishments of his administration.

One of the pleasant parts of my job has been the visiting of various county and district societies where I have had the pleasure of becoming acquainted with the members, and of discussing various phases of the matters laid before you. One or more officers of the State Society have accompanied me on each occasion. I visited twenty-one

societies. Dr. McManus was present at most of these and of course attended numerous others besides, while Dr. Channing Smith accompanied me on all but one of them.

I cannot close my report without making reference to the tremendous amount of time, and thought, and energy, which these men and Dr. Burcham, Chairman of the Legislative Committee, have devoted to this Society in the last year. Other men all along the line have given freely of their time, and ability, and to all these men is to be attributed whatever success this Society attains. There is only one measure of my own success and of the efficacy of the state office. That is the degree to which we enable your officers and committee members to do their work fully, effectively, and enjoyably.

Respectfully submitted to the House of Delegates,
Vernon D. Blank.

There being no further business to come before the House, the same was adjourned at 5:50 p. m., to meet at 8:00 o'clock Thursday a. m.

The delegates from the various congressional districts then assembled to select a member from their various districts to act as members of the Nominating Committee. The Committee reported was as follows:

First District—Dr. C. A. Boice, Washington.

Second District—Dr. F. O. Kershner, Clinton.

Third District—Dr. W. L. Hearst, Cedar Falls.

Fourth District—Dr. M. J. McGrane, New Hampton.

Fifth District—Dr. A. D. Woods, Marshalltown.

Sixth District—Dr. Evan S. Evans, Grinnell.

Seventh District—Dr. Thos. A. Burcham, Des Moines.

Eighth District—Dr. G. P. Reed, Davis City.

Ninth District—Dr. Frank E. Bellinger, Council Bluffs.

Tenth District—Dr. M. J. Kenefick, Algona.

Eleventh District—Dr. C. A. Katherman, Sioux City.

Second Meeting, Thursday, May 9

The House of Delegates met in the Oak Room, Hotel Fort Des Moines, and was called to order at 8:05 a. m., by President McManus. Roll call showed the presence of 13 officers and 67 delegates, making a total of 80.

The President announcing that a quorum was present, the House proceeded to the transaction of business.

The reading of the minutes of the first day's meeting was dispensed with.

There being no further report from the officers of the Society, the report of the Committee on Public Policy and Legislation was presented by its Chairman, Dr. Thomas A. Burcham, Des Moines, who moved the acceptance of the report and that the same be placed on file. Seconded and discussed

by Dr. John F. Herrick, Ottumwa, after which the motion was put and carried.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

To the President of the Iowa State Medical Society and the House of Delegates, the Committee on Public Policy and Legislation submits the following report:

The Forty-third General Assembly was very active and passed many bills which effect the medical profession and public health work. The following measures passed by the legislature are of special importance:

1. County Health Organization (Senate File 393). The bill will enable counties to organize their public health work on a county basis. It is the most constructive piece of legislation pertaining to local health administration that has ever passed an Iowa legislature. It is, we believe, the best county health law in the country. It will place a great responsibility on the medical profession.

2. Law Enforcement (House File 185). This bill provides for an inspector in the State Department of Health to secure evidence, etc., in case of violations of the medical (and other) practice acts. These include, as outlined in Section 8 of the Code, the practice of medicine and surgery, dentistry, embalmers, optometrists, pediatricists, osteopaths and chiropractors. The inspector will investigate and secure evidence in case of infringement of any of these acts and his services are not exclusively for physicians and surgeons.

3. Federal Aid (House File 346). This will permit the State Department of Health to accept federal aid for public health work.

4. Eugenics (House File 243). This is a conservative measure designed to curb the propagative power of those afflicted with serious diseases which may be transmitted by heredity.

5. Embalmers License and Sanitation Bill (Senate File 191). This bill raises the requirements for licensure as an embalmer and for better sanitation of embalming establishments. Physicians are asked to report "insanitary" places.

6. Barber Shop Closing Bill (Senate File 124). The State Department of Health may close barber shops if necessary for the protection of the public health. Physicians are asked to report insanitary shops to the State Health Commissioner.

7. Cosmetology Establishment Inspection (Senate File 189). This bill raises the annual renewal fee of "Beauty Parlor Artists" from one (\$1.00) to three (\$3.00) dollars—the same as for barbers. The increased fee will enable the department to have another inspector. If your wife finds conditions insanitary in the beauty shop which she patronizes, please ask her to report it.

8. Care of Indigent Tuberculosis Patients (Senate File 83). This bill permits boards of supervisors to pay an institution up to \$20.00 per week for the care

and support of indigent tuberculous patients. This money is taken from the poor fund of the county. It may be used to support a patient in a sanitarium in a county other than where the patient resides.

9. Juvenile Code Transmissible Disease Bill (Senate File 175). This bill permits a child "living in a home wherein because of carelessness or neglect of a person or persons having a transmissible disease of a serious nature as determined by the local board of health, local health officer, or the State Department of Health, the health of said child may be in danger" to be placed under the jurisdiction of the juvenile court.

10. The engineering division of the State Department of Health is provided with a special engineer for inspecting water supply and sewage disposal plants, and assisting those in charge to remedy defects. If the water supply of your city is apparently unsafe, the State Health Commissioner would appreciate your reporting same.

11. Investigation of Tuberculosis. This work was transferred from the State Board of Control, to the State Department of Health.

12. Epidemiology. Beginning July 1st, the Department will have an epidemiologist to make investigations of epidemics. His traveling expenses will be paid by the state.

13. Non-Medical Life Insurance. A policy may now be issued up to \$2,000 without examinations under certain conditions.

14. Workmen's Compensation Law (House File 111). This bill was passed by both houses of the legislature and has been signed by the governor—it increases the limit for medical, surgical and hospital treatment for workmen from \$200 to \$300.

The original bill, as introduced by the legislative committee, provided full payment for hospitalization with a limit of \$200 for medical and surgical fees. This bill met with considerable opposition from the railroads, insurance companies and industry in general. These people were able, through their paid lobbyists to keep this bill in the committee until the latter part of the session and it was only through a compromise that we were able to get it on the floor of the senate. The measure which finally passed and was signed by the governor increases only the total limit, as stated in the first of my remarks on this bill.

15. House File 503 passed both House and Senate and was signed by the Governor. This bill provides for a survey of rural schools and the finding of physically and mentally handicapped children. The sum of \$8,000 was appropriated to finance this survey which will be made by the superintendent of public instruction. An advisory committee of two members from the senate and two from the house were named to work with Miss Samuelson superintendent of public instruction. This survey is intended to furnish data which will be the basis for the formulation of an educational program for handicapped children to be introduced before the General Assembly in 1931.

In explaining the attitude taken by the Legislative Committee in regard to public health work and child hygiene it will be necessary to first recite briefly the appropriations which were contained in the budget bill for the coming two years:

APPROPRIATIONS (ANNUAL) FOR STATE PUBLIC HEALTH WORK

	Present	Next Year	Increase
I. State Department of Health—			
Total for Public Health-----	\$23,200	\$33,600	-----
Increase as follows:			
Epidemiology (Salary and traveling expense)-----			\$ 5,400
Tuberculosis -----			4,000
Engineering -----			2,700
II. State University—			
Laboratory (Bact.) -----	14,555	14,555	-----
Epidemiology (estimated 2/3) --	10,000	-----	-----
Now called Hygiene and Preventive Medicine (estimated 1/2 for Public Health Work)---(estimated 1/2 for Teaching)-----		8,000	-----
Maternity and Infant Hygiene--	21,213	21,213	-----
Maternity and Infancy (Federal Aid) -----	26,000	26,000	-----
Child Welfare, \$40,750			
Total Federal appropriation not known now			
Total (Probably \$10,000 more)---	\$71,768	\$69,768	-----

According to these figures the State Department of Health will next year receive a total of \$33,600 for public health work, and the State University probably \$80,000 to \$90,000 for such work. It will thus be seen that although the State Department of Health is charged by the law with the state public health duties in Iowa, it is receiving considerably less than one-half the amount received by the University which has comparatively little actual responsibility in connection with such. Even if Federal Aid for the Sheppard-Towner work is discontinued, the appropriation to the University will still be almost twice as much as the appropriation to the State Department of Health.

The University is, however, still receiving a large sum of money for a type of public health work, namely: that pertaining to child hygiene which everywhere else in the country is carried on by the State Department of Health and which our State Department believes is very necessary in order that it may function properly.

It is extremely unfortunate both for the public health interests of the state and more especially for the relationship of the medical profession to the public health work, that such a situation should prevail.

The Legislative Committee through its association with the members of the Forty-third General Assembly encountered a condition which should be given very serious consideration and that is, the fact that the group representing the University, the State Department of Health and the lay organiza-

tions use their influence for the purpose of receiving appropriations, or increasing appropriations, and the individual members of the house and senate are at a loss to know who should receive this money and the amount necessary to carry on the work. Members of the assembly expressed themselves to the Legislative Committee regarding the lack of uniformity and decision on the part of the three groups mentioned, and that they could not render definite information or opinions. The Legislative Committee accordingly recommends that a conference be held with the idea of arranging or rearranging the work so as to have a logical division of function, so that the work may be done most efficiently and without friction or duplication, and in order that no group be built up at the expense and to the detriment of the others. It is suggested that a committee, composed of a representative of each of the following groups be named:

1. State Medical Society.
2. State University.
3. Health Commissioner.
4. State Board of Health.

We have included in this list the State Board of Health, composed of five physicians appointed by the governor, for the reason that their duties, as prescribed by law, are: "1. To consider and study the entire field of legislation and administration concerning public health, hygiene and sanitation. 2. To advise or make recommendations to the governor and general assembly * * * ."

If this recommendation is approved and the committee appointed, the committee can perform many duties other than those outlined, such as, the desirability of a change in the medical practice act, especially in regard to the Basic Science Law, which would include conferences with the state medical examiners.

The Legislative Committee suggests that the representative selected from the Iowa State Medical Society by the Council be asked to arrange a meeting of the committee.

As you know, the federal appropriation for the carrying on of the work of the Sheppard-Towner Act will be discontinued on June 30, 1929. In the face of this, the Iowa state legislature appropriated a state fund in the sum of \$42,427.20 for the coming biennium to carry on this work. It would seem that the legislature was not fully instructed in regard to the discontinuance of the federal appropriation and we, therefore, ask this Society to definitely go on record as to whether or not you wish to support the continuance of a state appropriation, in view of the fact that the federal appropriation is to be discontinued.

Furthermore, another bill will probably be introduced in the next session of congress with a view to carrying on the work of the Sheppard-Towner Act. As you know, the American Medical Association has gone on record as being opposed to a continuance of the federal appropriation for the Sheppard-Towner Act and we call your attention to the

article on "The Threatened Extension of the Shepard-Towner Act" in the American Medical Association Bulletin for March, 1929. Therefore, there should be a definite and specific understanding in regard to whether you wish to support a federal appropriation for this work so that our congressmen and senators may be instructed as to our wishes.

The proposed change in the Perkins, Haskell-Klaus Laws:

Since the Forty-second General Assembly in 1927, the Legislative Committee and the officers of the Iowa State Medical Society have endeavored to come to an understanding with the board of education and the University authorities in regard to proposed changes in the Perkins, Haskell-Klaus Laws, with particular reference to the commitment of indigent patients to the University Hospital for medical and surgical treatment. In order to give the House of Delegates all the information in regard to our activities it is necessary to refer to a communication which has already been published and which was given before the Conference of Secretaries and Deputy Councilors in Des Moines on December 13, 1928:

"Preceded by two informal but extended conferences between Dean Houghton and the Legislative Committee, there was held in Iowa City on September 15, 1928, an all evening session of the Legislative Committee, officers of the Iowa State Medical Society, President Jessup, Dean Houghton and department heads of the University Medical College. Not only was this meeting marked by a fine spirit of friendliness and a desire to cooperate, but it was evident that between the teaching faculty of the medical college and the State Society, there was little or no difference of viewpoint. To Dean Houghton was delegated the task of further consideration with the Legislative Committee of the two problems which remained unsettled after this conference; First, the extent to which the new University Hospital should be used for private patients; second, methods of meeting the demands of those who supported proposed changes in the Perkins, Haskell-Klaus Laws without curtailing the supply of clinical material at the University Hospital.

After a meeting of the Legislative Committee, which Dean Houghton attended, the following proposed changes in the Perkins, Haskell-Klaus Laws were agreed upon:

1. Commitment to be limited to a two year period.

2. Two reputable physicians must sign the commitment papers, at least one of whom is in good standing with the local county medical society. Fee to be \$2.50 each.

Physicians should make a statement as to whether or not, in their opinion, the patient can be benefited by care in the University Hospital, and as to the patient's financial condition.

Patient should make affidavit as to any property, real or personal, he may possess.

The University will render a confidential report to each county society secretary of all patients, pay and indigent, monthly, showing diagnosis, when, how and by whom, committed.

3. The cost of transportation and hospitalization to become a debt against the individual and a lien against any property he may have, or may acquire, for a period of ten years.

4. The actual cost of hospitalization should be paid the state, and the state in turn should charge 50 per cent back against the general fund of the county sending the patient, the other 50 per cent to be charged against the general fund of the state.

The transportation charges for both patients and escorts shall be charged against the general fund of the state.

5. No pay patients, neither children nor adults, shall be taken into the State University Hospital if they would interfere in any way with the care of the indigent patients committed.

6. The number of private pay patients taken into the University Hospital shall at no time be more than 5 per cent of the total beds available.

This may not be included in the law, but is to be effected by a ruling of the board of education.

7. The hospital should be operated on an actual cost basis. A careful record of receipts and expenditures of the institution should be kept and a monthly report rendered by the hospital. The state should pay, by voucher, the actual cost of the institution.

Reasons for Changes

The reasons for the proposed changes are:

1. Under the present law the commitment is good for an indefinite period of time. There are cases on record in which the financial condition of the patient or their family has changed materially, but they are still able to receive treatment and hospitalization at the University Hospital on the old commitment.

2. Under the present law, one physician signs the papers with a fee of \$5. It is proposed that two physicians sign the papers, at least one of whom is in good standing with the county medical society. This is suggested for the reason that the doctors are complaining that patients are railroaded to the University Hospital by some active person in the county without the doctors having any knowledge of their going, or for what reason, the commitment being signed by a doctor not in good standing with the profession. The two doctors would also act as a committee and give an opinion as to whether the patient can be benefited by treatment in the University Hospital.

3. This needs no further explanation, except to state that in the case of insane patients the cost of their care in an institution becomes a lien against their property for a period of ten years.

4. The Wanstad bill which proposed to change the Perkins, Haskell-Klaus Laws and which was introduced during the last session (1927) of the legis-

lature, provided for the cost of the care of patients in the University Hospital to be charged back to the county sending the patients. This was for the reason that some of the less populous counties that sent only a few patients to Iowa City were paying an exorbitant fee per patient, in comparison with the fee per patient for counties having a larger population and sending a greater number to the University Hospital.

The change, as suggested in paragraph 4, would charge 50 per cent of the cost back to the county and would at least tend to equalize the cost to the different counties.

The transportation charges for both patients and escorts to be charged against the general fund of the state and thus each county, regardless of the distance from Iowa City would pay the same price per diem for the patients committed.

5. The University authorities, the board of education, and the Iowa State Medical Society fully agree that the University Hospital at Iowa City is for the purpose of caring for the indigent people of the state and to furnish clinical material for teaching purposes; and it is the desire of everyone that each and every indigent patient be cared for without delay.

6. At the present time, the board of education has made an arbitrary ruling that only 5 per cent of the total beds available in the hospital can be used for private pay patients. This provision will take care of the citizens of the state of Iowa who care to become patients at the University Hospital and will not interfere in any way with the patients committed under the Perkins, Haskell-Klaus Laws.

7. Paragraph 7, with reference to a careful accounting of receipts and expenditures by the University Hospital, and a system of payment by voucher by the state is self-explanatory.

The above changes were submitted to a sub-committee of the board of education by the Legislative Committee. The sub-committee and the Legislative Committee worked at these problems over a period of several weeks during which time the late Hon. E. L. Hogue, budget director for the state of Iowa, conferred with these committees.

Board of Education Decision

The above proposed changes were submitted to a full meeting of the board of education by its sub-committee and the following resolutions were received from the secretary of the board of education:

"Whereas, the state board of education, meeting at Iowa City on December 11, 1928, received a report from its special committee of a conference with a committee of the Iowa State Medical Society duly appointed for the purpose, which meeting was held in Des Moines on the evening of November 8, 1928; and

"Whereas, the state board of education considered in detail the report of its special committee, discussing each and all of the proposals made to its

special committee by the committee of the Iowa State Medical Society; and

"Whereas, the Iowa state board of education believes that several proposals of the Iowa State Medical Society can with advantage be adopted and applied for a period of at least two years before any attempt is made to write these proposals into the present laws of the state of Iowa; and

"Whereas, the proposals of the Society, with the exception hereinafter noted are deemed to be sound and reasonable and should be adopted as administrative procedures for the University Hospitals; and

"Whereas, the proposal of the Society for a change of the basis of reimbursement for indigent patients, whereby the costs should be borne in part by the counties committing them and in part by the state concerns an economic problem solely on which the board refrains from formal action, as being outside of its jurisdiction but which the board feels would cause confusion and might jeopardize the even flow of patients to the University Hospitals.

"Now, Therefore, Be It Resolved by the Iowa state board of education, in regular meeting assembled, that the following matters and things be, and they are, hereby adopted as administrative rules of procedure for the operation of the University Hospitals at the University of Iowa:

"1. That commitments of indigent patients to the University Hospitals shall expire two years after date of original commitment.

"2. The State Board of Education believes that it would be to the best interest of the people of the state and in the interests of administration of the hospital if two reputable physicians would join in signing the application to the court for the commitment of an indigent patient rather than one, as now required by law.

"3. That the state board of education will hereafter continue its present policy of demanding and requiring an itemized property statement made under oath by the indigent patient before admission to the hospital.

"4. That the board of education, in operating the University Hospitals in the joint interest of a state-wide medical service, as now provided by the statutes and laws of the state of Iowa familiarly known as the Haskell-Klaus and Perkins Acts, does not contemplate the creation of an agency which will compete with practicing physicians, nor the expansion of its private services beyond those already provided, which are now approximately 5 per cent of the bed capacity of the University Hospitals. This policy is contingent upon a supply of indigent patients adequate for the teaching of medical students committed to the care of the board, and adequate financing of the same.

"Be It Further Resolved by the state board of education that this resolution be spread upon the minutes of the board of education as a permanent policy of administrative procedure for the operation of the University Hospitals at Iowa City, and that

a copy of the same be forwarded to the officers of the Iowa State Medical Society."

After a careful analysis of the resolutions from the board of education, one is convinced that the board does not feel inclined to use its influence in any way to have the present Perkins, Haskell-Klaus Laws changed in any manner. Although they agree that certain changes should be made they are unwilling to consent to such changes being made in the laws, preferring that the changes be a policy of the Board.

After the Forty-third General Assembly convened in Des Moines in 1929, we immediately got in communication with Representative Wamstad and his supporters who had fostered the bill in the Forty-second General Assembly in 1927. The entire proceedings of the Legislative Committee with reference to our meetings with the University group, as outlined above, were explained to these men and a copy of the report to the Conference of Secretaries and Deputy Councilors was furnished them. The Legislative Committee wanted the legislators to fully understand our endeavor to bring about an agreement with the board of education and the University authorities. This information was not given to Representative Wamstad for the purpose of influencing him in any way as to whether or not he should introduce a bill in the legislature. After receiving this information, he and his friends in the legislature held several conferences and without further consulting the Legislative Committee, Representative Wamstad introduced a bill, House File 203, which proposed to change the Perkins, Haskell-Klaus Laws in but one particular, and that was to charge the expense of caring for indigent patients back against the county committing the patients. The Legislative Committee supported the bill, because of the definite instructions they had received from the House of Delegates in the annual session in Cedar Rapids in 1928. At the time this bill was reached on the House Calendar, Representative Wamstad withdrew it with the following remarks, which are a matter of record in the House Journal of March 22, 1929:

Mr. Speaker: I am about to ask that House File No. 203 be withdrawn from further consideration by the House. In fairness to the friends of this bill, I am going to request that I be permitted to print in the Journal my reasons therefor.

Since introducing this bill in the Forty-second and again at the beginning of this session, I have become convinced that there has been a concerted effort made on the part of the University authorities, the Board of Education and the State Medical Society to correct the abuses which have existed in the administration of the Perkins, Haskell-Klaus Laws in recent years.

Chief among these are the limitation of the period of commitment and a more complete statement showing financial conditions and necessity of hospitalization of patients committed.

In talking with Representative Wamstad and his supporters we feel that he was sincere in the remarks he made at the time he withdrew the bill. He gave as another reason for withdrawing the bill, the fact that he believed that the Medical Society was not united in its opinion and efforts for its

passage and that he did not want the medical profession to be embarrassed on the floor of the house because of the lack of unity. Representative Wamstad and other of our friends in the legislature stated very definitely that the lobby opposing this measure had in committee hearings and elsewhere made it appear that support of the Wamstad bill came, not from the physicians of the entire state, but from small groups in the larger centers, and particularly, Des Moines. They further stated that if this lack of unity in the medical profession persisted that it would seriously interfere with our legislative program, not only during this session of the legislature, but in the coming sessions.

We were convinced that lack of definite information relative to the matters affected by legislation proposed by the Committee was one of the greatest handicaps we had to contend with. Often we did not have facts and figures to show to our legislators to convince them of the benefits we were trying to secure. This lack of information also tended to cause misunderstanding on the part of some of our members and led to an apparent want of unity.

Therefore, the Legislative Committee would recommend that a permanent committee be appointed by the Councilors to be known as the "Committee on Hospitalization and Medical Education". This committee could also investigate matters which have been referred to in the above discussion and which the Legislative Committee have endeavored during the past two years to solve—i. e., to bring about an amenable and workable agreement with the board of education, University authorities and the Iowa State Medical Society.

This committee should examine the present law pertaining to the commitment of indigent patients to the University Hospital at Iowa City, with a view to ascertaining whether the present law is satisfactory from the standpoint of the care of indigent patients, and the supplying of clinical material to the University Medical School; or whether a change in the law could take care of both phases of the University Hospital work in a more advantageous manner.

This committee should also investigate the economic conditions entering into the administration of this law, particularly in regard to the cost involved and whether a change in charging the cost back to the county would tend to equalize the cost to each county; and whether such a change would interfere with the clinical material for teaching purposes.

This committee should also study the cost of hospitalization and transportation of indigent patients in Iowa, in comparison with University Hospitals in other states; and the cost of medical education in Iowa in comparison with states of equal and like population in the Middle West.

The Legislative Committee is fully convinced that this information should be gathered by the State Medical Society and a report rendered to each member of the Society. The membership of the Iowa

State Medical Society includes many men with sufficient ability, knowledge and wisdom to render such a report without prejudice and without any thought of personal gain.

Proposed Legislation

The House of Delegates at this meeting should go on record as to whether the Society wishes to support a Federal Appropriation for the continuance of the Sheppard-Towner Act. This measure will come before Congress at a very early date.

Other matters, such as changes in the medical practice act, with special reference to a Basic Science Law, changes in the Perkins, Haskell-Klaus Laws, etc., should be considered by the members of the profession during the next year and the House of Delegates should instruct the Legislative Committee in regard to their wishes, at the next annual meeting.

Therefore, we suggest that the delegates take these questions before their county societies and ask for definite instructions. The legislature will not convene again until 1931 and this will give ample time for a consideration of these matters.

After a policy is once decided upon, the Society as a whole, should support the proposed legislation and there should be no dissenting voice. The Iowa State Medical Society is in a position through its organization to have a tremendous influence for good and any reasonable and logical proposed legislation would be given serious consideration by the legislature. It is only through an united effort that we can expect to accomplish anything in the future.

In the opinion of the Legislative Committee, the greatest single administrative procedure ever put into operation by the Iowa State Medical Society was the establishment of the position of Managing Director by the Board of Trustees. This position has been occupied since July, 1928, by Mr. Vernon Blank. This Committee wishes to express their appreciation of the services rendered by Mr. Blank. He was in daily attendance at the state capitol during the session of the legislature and in constant communication with the Legislative Committee. His efforts were untiring and of the greatest value. He and his office relieved the Committee of all clerical work and all credit should be given him.

Dr. Albert, State Health Commissioner, and Dr. Steelsmith, his assistant, rendered valuable service.

Dr. Cole, representative from Harrison county, our friend and colleague, rendered a service to the profession worthy of the man and our cause. To him credit must be given for the increase in the Workman's Compensation Law. He not only introduced the bill, but fostered it through both houses. He was Chairman of the Health Committee and kept the Legislative Committee informed of their activities, and all matters pertaining to public health and the profession.

Even with all the good work done by those mentioned the real motive force back of all was the influence rendered by the doctors back home—not a

single doctor failed to comply with requests from the Committee to get out a letter or telegram, and several even made trips to Des Moines. The Committee wishes to thank each and every one for their hearty support.

Thos. A. Burcham, Chairman,
W. Eugene Wolcott,
Peter A. Bendixen,
Thos. U. McManus, Ex-Officio,
Tom B. Throckmorton, Ex-Officio.

Dr. John F. Herrick, Ottumwa, then presented the following resolution: "That in conformity with the recommendation of the Legislative Committee of the Iowa State Medical Society, the Board of Councilors be instructed to appoint a committee of three members of the Society, on Medical Education and Hospitals. The duty of this committee shall be to collect information relative to the medical care of the indigent sick in Iowa; to secure information as to the costs of such care in Iowa as compared with the cost in other states of relatively equal and like population; to collect information as to the operation of the Perkins-Klaus Laws as they pertain to the commitment of indigent persons to the University Hospital and the cost to the state of the same; to determine to what extent the operation of these laws supplies the Medical Department of the State University with proper clinical material for teaching purposes, and to collect such other information relative to medical education and hospitals as may be of value to the profession of the state", and moved its adoption. Seconded and carried.

Dr. Charles B. Taylor, Ottumwa, in some well chosen and fitting words, expressed his appreciation of the work done and accomplished by the Committee on Public Policy and Legislation and especially commended the work of its able Chairman, Dr. Thomas A. Burcham, for his faithful and painstaking efforts, so well expressed in the report of the Committee.

Dr. Evan S. Evans, Grinnell, moved that a rising vote of thanks be extended to Dr. Thomas A. Burcham and other members of the Committee who had labored with him in accomplishing the herculean task relative to the discharge of the Committee's duties. Seconded and unanimously carried.

Further remarks apropos to the work of this Committee were then made by Dr. E. B. Bush, Ames; Dr. G. P. Reed, Davis City; Dr. John F. Herrick, Ottumwa; Dr. Ray R. Harris, Dubuque; Dr. Charles B. Taylor, Ottumwa, and Mr. Vernon D. Blank, Des Moines.

Dr. Thomas A. Burcham, Des Moines, then made a few remarks concerning the Sheppard-Towner Act and asked for an expression from the House as to whether it wished the Committee to support the program entailed in the carrying out of this act.

Dr. John F. Herrick, Ottumwa, moved that the judgment of the A. M. A. concerning the Sheppard-Towner Act, be accepted, and that the House go on

record as being unfavorable to the continuation of this National Act.

Seconded by Dr. C. A. Boice, Washington.

After discussion by Dr. Channing G. Smith, Granger; Dr. Charles B. Taylor, Ottumwa; Dr. John F. Herrick, Ottumwa, and Dr. Thomas Burcham, Des Moines, the motion was put and carried.

Dr. Evan S. Evans, Grinnell, moved that it be the expression of this House that it disapproves the activities of this state in appropriating money for the carrying out of the Sheppard-Towner Act. Seconded by Dr. E. B. Bush, Ames, and carried.

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

Secretary Throckmorton, as a member of the Committee, again read the six proposed amendments to the By-Laws, as presented at the Wednesday afternoon meeting. After reading each amendment separately the Secretary moved its adoption, and upon each motion being seconded, the same was duly carried.

Secretary Throckmorton then read the following proposed Amendment to the By-Laws, Chapter V, Section 2, Page 13, by striking out after the word caucuses in the sixth line, the following:

"And such caucuses shall at the same time select the member of the Council for the same district."

The proposed amendment, under the By-Laws, was laid on the table, to be considered at the Friday morning meeting of the House.

The proposed changes in the Constitution and By-Laws of the Iowa State Medical Society, as presented to the Committee on Constitution and By-Laws by Dr. John H. Peck, Des Moines, were then read by Secretary Throckmorton. Since no action upon the proposed changes could be taken at this Annual Session, the same were placed on file to be published with the transactions of the House.

To the Committee on Constitution and By-Laws of the Iowa State Medical Society:

It seems wise at this time to propose several changes in the Constitution of the Iowa State Medical Society so as to make it conform with present day usage in the surrounding states. It will be simpler to adopt the standard constitution for constituent state medical associations, as prepared by a special committee of the House of Delegates of the American Medical Association. Therefore, I wish to present the following amendments to the Constitution:

(1). That Article I of the Constitution be amended to read as follows: Article I.—Name of the Association. The name and title of this organization shall be the Iowa State Medical Association.

(2). That Article II of the Constitution shall be amended to read as follows: Article II.—Purpose. The purposes of this Association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profes-

sion; and to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

(3). That Article III of the Constitution be amended to read as follows: Article III. Component Societies.—Component Societies shall consist of those county medical societies which hold charters from this Association.

(4). That Article IV of the Constitution be amended to read as follows: Article IV.—Composition of the Association. This Association shall consist of members who shall be the members of the component county medical societies who have been certified to the headquarters of this Association, and whose dues and assessments for the current year have been received by the Secretary.

(5). That Article V of the Constitution be amended to read as follows: Article V.—House of Delegates. The House of Delegates shall be the legislative body of the Association, and shall consist (1) of delegates elected by the component county societies, and (2) the officers of the Association enumerated in Section 1 of Article IX of this Constitution.

(6). That Article VI of the Constitution be amended to read as follows: Article VI.—Council. The Council shall be the Board of Trustees of this Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates shall be called into session as provided in the Constitution and By-Laws. It shall consist of the Councilors, the President, the President-Elect, and the Secretary-Treasurer of the Association. Seven of its members shall constitute a quorum.

(7). That Article VII of the Constitution be amended to read as follows: Article VII.—Sections and District Societies. The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

(8). That Article VIII of the Constitution be amended to read as follows: Article VIII.—Sessions and Meetings. Section 1. The Association shall hold an annual session during which there shall be at least two general meetings, open to all registered members, delegates and guests.

Section 2. The time and place for holding each annual session shall be fixed by the House of Delegates, or such authority may be delegated to the Council.

Section 3. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council or upon petition by twenty delegates.

(9). That Article IX of the Constitution be amended to read as follows: Article IX.—Officers. Section 1. The officers of this Association shall

be a President, a President-Elect, a Secretary-Treasurer and ten Councilors.

Section 2. The officers, except the Councilors, shall be elected annually. The terms of the Councilors shall be for two years; one-half the members of the Council shall be elected each year. The Secretary-Treasurer shall be elected by the Council. All these officers shall serve until their successors are elected and installed.

(10). That Article X of the Constitution shall be amended to read as follows: Article X.—Funds and Expenses. Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised by voluntary contributions, from the Association's publications and in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

(11). That Article XI of the Constitution be amended to read as follows: Article XI.—Referendum. At any general meeting of the Association it may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all the members of the Association shall determine the question.

(12). That Article XII of the Constitution be amended to read as follows: Article XII.—Seal. The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

(13). That Article XIII of the Constitution shall be enacted as follows: Article XIII.—Amendments. The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been published twice during the year in the Journal of the Association, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

Respectfully submitted,

John H. Peck, M.D.,

REPORT OF THE FINANCE COMMITTEE

Report of the Finance Committee was made by the Chairman, Dr. E. C. McClure, Bussey. Dr. McClure in his report stated that since the Trustees had seen fit to have the books of the Secretary and Treasurer audited by a certified public accountant, the work of the Committee was purely one of acquiescence, in that the Committee was perfectly satisfied with the reports as presented by the Secretary and Treasurer, and moved the acceptance of the accountant's report. Seconded and carried.

REPORT OF THE MEDICAL LIBRARY COMMITTEE

Dr. D. S. Fairchild, Clinton, Editor Emeritus and Chairman of this Committee, presented his report and moved its acceptance and that the Committee be continued. Seconded by Dr. John F. Herrick, Ottumwa. The Chair then put the motion which was carried.

REPORT OF COMMITTEE OF THE STATE MEDICAL SOCIETY ON MEDICAL DIVISION OF STATE LIBRARY FOR 1928

Borrowed from other libraries for the use of members 82 pieces of literature
Requests of material 2,048
There were 1,482 persons visiting the library and 627 telephone calls

For 1928

Pieces sent out 9,694
Requests for material 3,105
Pieces borrowed from other libraries 62
Visitors to library 1,462
Telephone calls 448

There has been a considerable exchange of duplicate Journals with other libraries to fill out volumes and sets

The number of volumes bound 9,091
Number of volumes of unbound Journals—complete 2,907
Nearly complete 1,005
Total number of volumes 14,456

The most important to the library was the presentation to the library by Dr. Casey A. Ward of a complete set of Ophthalmological Records.

The librarian reports that with the beginning of the next fiscal year an increase of \$500 will be allowed to the library. This will aid materially in increasing the services of the library to the profession.

The industry of book publishing houses and technical writers seem to make a book more than a week old out of date.

NEW BUSINESS

Secretary Throckmorton then read a letter from Dr. Henry Albert, Commissioner of the Iowa State Department of Health, stating that Dr. William Jepson's term as a member of the Board of Medical Examiners would expire July 1, and after endorsing the work of Dr. Jepson on the Board, requested that the House nominate someone to fill the vacancy.

Secretary Throckmorton then moved that he be instructed by the House to communicate with Governor John Hammill, relative to the vacancy and to request that Dr. Jepson be permitted to succeed himself for another term of office. Unanimously seconded and carried.

Secretary Throckmorton then read a copy of a resolution purported to have been passed by the Kansas State Medical Society, and which had been placed in his hands by a representative of the National Food Bureau, Chicago, Illinois.

After a few remarks by Dr. Samuel T. Gray, Albia, and Dr. Channing G. Smith, Granger, Dr. C. A. Boice, Washington, moved that the resolution be laid on the table. Seconded and carried.

Dr. William Jepson, Sioux City, then made a few remarks relative to the activities of the federal narcotic agents, and also called the attention of the House to a ruling made by the attorney general whereby osteopathic physicians were permitted to use opium or its derivatives, it being claimed that the same was a drug which had no curative properties.

A request was then made by the Secretary that Dr. William Jepson, Sioux City, bring before the House, if he so desired, at the Friday morning meeting, a resolution covering what seems to have been an unfortunate and undesirable ruling by the attorney general, in the granting of such right to those professing to heal by drugless methods.

There being no further business to come before the House, the same adjourned at 10:35 a. m., to meet at 8:00 o'clock Friday a. m.

Third Meeting, Friday, A. M., May 10

The House of Delegates met in the Oak Room, Hotel Fort Des Moines, and was called to order by President McManus, at 8:15 a. m.

Roll call showed the presence of 12 officers, and 48 delegates, making a total of 60.

The President announcing that a quorum was present, the House then proceeded to the transaction of business.

The minutes of the first meeting of the House were then read by the Secretary, and there being no corrections or objections, the same were approved as read.

The minutes of the second meeting were then read by the Secretary and there being no corrections or objections, the Chair stated that the minutes would stand approved as read.

The report of the Committee on Nominations being the first order of business, Dr. Evan S. Evans, Grinnell, Chairman, presented the report as follows:

REPORT OF THE COMMITTEE ON NOMINATIONS

For the office of President-Elect—Dr. W. A. Rohlf, Waverly; Dr. C. H. McGee, Burlington; Dr. B. L. Eiker, Leon.

For First Vice-President—Dr. Gordon Harkness, Davenport.

For Second Vice-President—Dr. W. W. Bowen, Fort Dodge.

For Member Board of Trustees—Dr. John F. Herrick, Ottumwa.

For Delegate to A. M. A. for two-year term—Dr. Thomas F. Thornton, Waterloo.

For Alternate to A. M. A. for two-year term—Dr. Clyde A. Boice, Washington.

Standing Committees

For member of Medico-Legal Committee, Dr. Frank A. Ely, Des Moines.

For Public Policy and Legislation Committee, to succeed themselves, Dr. Thomas A. Burcham, Des

Moines; Dr. W. Eugene Wolcott, Des Moines; and Dr. Peter A. Bendixen, Davenport.

For members of the Constitution and By-Laws Committee, to succeed themselves, Dr. Vernon L. Treynor, Council Bluffs; Dr. Charles B. Taylor, Ottumwa; and Dr. Tom B. Throckmorton, Des Moines.

For members of the Finance Committee, Dr. Ernest C. McClure, Bussey; Dr. R. F. Childs, Audubon; Dr. E. P. Weih, Clinton.

The Committee endorses the continuance of the Special Committees—Medical Library, Military Affairs, and Hospital, and suggests that Dr. Walter L. Bierring, Des Moines, succeed himself as a member and Chairman of the Hospital Committee.

The Committee further recommends that Marshalltown be made the meeting place of the next Annual Session, to be held the second week in May, 1930.

Respectfully submitted,
Evan S. Evans, Chairman.

ELECTION OF OFFICERS

The House then proceeded to an election.

The President appointed Dr. Alexander McKinley, Des Moines, and Dr. Paul Gardner, New Hampton, as tellers.

The ballot was then taken for the office of President-Elect. A ballot of 52 votes was cast, of which Dr. William A. Rohlf, Waverly, receiving 28, the Chair declared him elected to the office of President-Elect.

Dr. Channing G. Smith, Granger, moved that the election of Dr. William A. Rohlf, for President-Elect, be made unanimous. Seconded and unanimously carried.

Dr. C. A. Boice, Washington, moved that, as there was but one candidate for the other offices and committees, the rules be suspended and the Secretary instructed to cast the ballot for the remaining officers and committee members, as reported by the Nominating Committee. Seconded.

The Secretary moved, as an amendment, that the recommendations of the Nominating Committee be accepted, with the exception of the Special Committees on Military and Hospital Affairs, and the place and date of the next annual meeting. Seconded and carried.

The original motion, as made by Dr. C. A. Boice, Washington, was then placed before the House and carried.

The Secretary then cast the ballot and the Chair declared the remaining officers and committee members duly elected.

The Chair then appointed Dr. Watson W. Beam, Rolfe, and Dr. L. C. Kern, Waverly, to act as committeemen to find and escort to the House of Delegates, the newly elected President-Elect, Dr. William A. Rohlf, of Waverly.

The Secretary announced that inasmuch as the Committees on Military Affairs and Hospitals were

special committees, it would be necessary for a motion to be made, later, for the continuance of these committees, if it was the desire of the House to so do. The Secretary furthermore stated that under the resolution presented yesterday by Dr. John F. Herrick, Ottumwa, "that the Council be instructed to appoint a committee of three members of the Society to be known as a committee on Medical Education and Hospitals", that such action unquestionably created a committee whose work had heretofore been carried on by the Committee on Hospitals, and therefore, it would be unnecessary for the House to move the continuance of this latter committee.

The Chair then called for any Reports of Officers or Standing Committees.

Dr. Tom B. Throckmorton, a member of the Committee on Constitution and By-Laws, then read the proposed amendment to the By-Laws, Chapter V, Section 2, Page 13, as presented at the Thursday morning meeting of the House, and moved its adoption. Seconded and carried.

REPORT OF THE HOSPITAL COMMITTEE

The Report of the Hospital Committee was then presented by its Chairman, Dr. Walter L. Bierring, Des Moines, who stated that this committee, during the past year, had investigated several hospitals, but had added no new ones to the list. One hospital, however, had been taken off of their list, but there was every indication that within a few months it would be restored, and, therefore, should not be recorded at this time.

NEW BUSINESS

Dr. Harold A. Spilman, Ottumwa, a member of the Committee on Military Affairs, stated that inasmuch as the committee had been created a few years ago at the suggestion of the office of the surgeon general, at Washington, it would seem wise to continue the committee, even though no work had been found during the past year for it to do, and moved that the committee be so continued. Seconded and carried.

Dr. Channing G. Smith, Granger, stated that as far as he knew no Councilor had been recommended by delegate caucuses, in the fourth, fifth, eighth, and ninth districts, and that the fifth district had been represented, following the resignation last year of Dr. George Crawford, Cedar Rapids, by Dr. A. C. Conaway, Marshalltown, who was appointed by the Board of Trustees to complete the year's work.

Dr. G. P. Reed, Davis City, reported that the delegates in the eighth district had caucused and had selected Dr. James G. Macrae, Creston, to serve as Councilor for that district.

The Secretary stated that inasmuch as no Councilors had been selected for the fourth, fifth, and seventh districts, the adoption of the amendment to the By-Laws this morning allowing for the selection of Councilors by the Nominating Committee, or by the House of Delegates, would permit of an

election by the House to fill the vacancies in these districts.

Dr. E. C. McClure, Bussey, moved that Dr. Channing G. Smith, Granger, be re-elected to succeed himself as Councilor in the seventh district. Seconded and carried.

Dr. A. D. Wood, State Center, moved that Dr. A. C. Conaway, Marshalltown, be elected to finish out the term of office of the Councilor in the fifth district. Seconded and carried.

Dr. E. L. Wurtzer, Clear Lake, moved that Dr. Paul Gardner, New Hampton, be re-elected as Councilor of the fourth district, to succeed himself. Seconded and carried.

Dr. Samuel T. Gray, Albia, then presented the following resolution passed by the Council at a meeting on May 9th:

"That the Council recommends to the House of Delegates, that the wives and daughters of the members of the Iowa State Medical Society, be granted the privilege of using the name, Woman's Auxiliary of the Iowa State Medical Society, for their organization."

Dr. Alexander D. McKinley, Des Moines, moved that the recommendation of the Council be approved, in the granting by the Iowa State Medical Society, the privilege of the wives and daughters of members of the Society, the use of the name, Woman's Auxiliary of the Iowa State Medical Society.

Seconded by Dr. C. A. Boice, Washington, and carried.

Secretary Throckmorton then moved that the date of the next annual session of the Society be May 14, 15, and 16th, explaining that in so doing, this date would not conflict with that of the State Dental Association, whose annual sessions are held beginning with the second Tuesday in the month of May.

Seconded by Dr. C. A. Boice, Washington, and carried.

Dr. Fred F. Agnew, Independence, moved that inasmuch as the Dubuque County Medical Society had extended a very cordial invitation to the State Society to hold its next annual session in that city, the same be accepted. Seconded by Dr. Paul Gardner, New Hampton.

Before putting the question, the same was discussed by Dr. A. D. Woods, State Center; Dr. G. P. Reed, Davis City; Dr. Thomas A. Burcham, Des Moines; Dr. Michael J. Kenefick, Algona; and Dr. Evans S. Evans, Grinnell; after which Dr. Fred Agnew withdrew his motion, with the consent of Dr. Paul Gardner, who had seconded it. The motion was withdrawn.

Dr. Oliver J. Fay, Des Moines, moved that the invitation of the Marshall County Medical Society be accepted and that the next meeting be held in Marshalltown. Seconded and carried.

The Committee appointed by the Chair to escort the newly elected President-Elect, being in waiting, the same reported and presented to the House of

Delegates Dr. William A. Rohlf, Waverly, who in a few well chosen words expressed his appreciation of the honor which the House had accorded him in electing him to this high office.

Dr. Walter L. Bierring, Des Moines, then brought to the attention of the House what he considered to be an urgent need for the appointment of a special committee dealing with historical facts in relation to the Iowa State Medical Society, basing his remarks largely on the work accomplished in compiling such a history in our sister state association in Illinois.

Dr. John F. Herrick, Ottumwa, moved that the incoming President appoint a committee of four, who, with Dr. D. S. Fairchild, Clinton, as Chairman, would be known as a Historical Committee, to comply with the suggestions of Dr. Walter L. Bierring. Seconded and carried.

Secretary Throckmorton then read the following resolution offered by Dr. William Jepson, Sioux City, relative to the question raised the day before in the House, regarding the activities of federal narcotic agents and the use of narcotics by so-called drugless healers, and moved its adoption. Seconded and carried.

"Be it resolved that it would be in the interest of safeguarding the use and administration of narcotics, as well as the public against their addiction that none but those who have knowledge of their toxicity and therapeutic use, as shown by a thorough course of study of the same, and having given evidence of that fact by having passed a satisfactory examination before one of the State or National Boards of Medical Examiners.

"Therefore, it is moved that the President of this Society shall refer to some committee now existing or a committee of three appointed by him, the question of interest in the foregoing and which committee shall furthermore determine through its investigation.

"First—Whether there are at this time any class of practitioners in this state administering narcotic drugs without such knowledge and training in their use, as contemplated in the foregoing statements.

"Second—If they do so by authority of having a license from the Internal Revenue Department, then to ascertain by what authority said Internal Revenue Department issued the same.

"Third—If it is found that conformity to the Harison Narcotic Law is not maintained in all respects in securing license, to report to this Society its findings, as well as its recommendations as to means for its correction."

The Chair then appointed the Board of Trustees to act as this Committee.

There being no further business to come before the House of Delegates, the same was adjourned at 9:33 a. m., sine die.

Respectfully submitted,

Tom B. Throckmorton,
Secretary.

IOWA STATE MEDICAL SOCIETY OFFICERS AND COMMITTEES 1929-1933

President.....	John H. Peck, Des Moines
President-elect.....	William A. Rohlf, Waverly
First Vice-President.....	Gorden F. Harkness, Davenport
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	Term expires
First District—George B. Crow, Burlington.....	1930
Second District—Anthony P. Donohoe, Davenport.....	1932
Third District—Fred F. Agnew, Independence.....	1931
Fourth District—Paul E. Gardner, New Hampton.....	1934
Fifth District—Aaron C. Conaway, Marshalltown.....	1933
Sixth District—Samuel T. Gray, Albia.....	1933
Seventh District—Channing G. Smith, Granger.....	1934
Eighth District—James G. Macrae, Creston.....	1934
Ninth District—Henry B. Jennings, Council Bluffs.....	1932
Tenth District—Watson W. Beam, Rolfe.....	1931
Eleventh District—Giles C. Moorhead, Ida Grove.....	1930

TRUSTEES

Oliver J. Fay, Des Moines, Chairman.....	1931
Vernon L. Treynor, Council Bluffs.....	1930
John F. Herrick, Ottumwa.....	1932

DELEGATES TO A. M. A.

Thomas F. Thornton, Waterloo.....	1931
Donald Macrae, Jr., Council Bluffs.....	1930
Bert L. Eiker, Leon.....	1930

ALTERNATE DELEGATES TO A. M. A.

Clyde A. Boice, Washington.....	1931
Thomas A. Burcham, Des Moines.....	1930
John F. Herrick, Ottumwa.....	1930

STANDING COMMITTEES

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Frank A. Ely, Des Moines, Chairman.....	1932
George C. Albright, Iowa City.....	1930
Henry B. Jennings, Council Bluffs.....	1931

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Charles B. Taylor.....	Ottumwa
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Earl B. Bush.....Ames

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President-elect.....Mrs. E. L. Bower, Guthrie Center
First Vice-president.....Mrs. P. B. McLaughlin, Sioux City
Second Vice-president.....Mrs. David H. Hopkins, Glidden
Third Vice-president.....Mrs. John H. Peck, Des Moines
Secretary.....Mrs. F. G. Murray, Cedar Rapids
Treasurer.....Mrs. Channing G. Smith, Granger
Parliamentarian.....Mrs. F. E. V. Shore, Des Moines

SOCIETY PROCEEDINGS

Adair County

The Adair County Medical Society meeting was held June 14 in Greenfield, in conjunction with a heart and chest clinic conducted by Drs. Peck and Luginbuhl of Des Moines. Luncheon was served at the Hotel Greenfield at noon, and was followed by the business session.

Cerro Gordo County

The Cerro Gordo County Medical Society held its regular meeting at the Lake Shore Hotel, Clear Lake, Iowa, Tuesday, June 18. Dinner at 6:30. The Clear Lake doctors were responsible for this meeting and suggested that we get away from the "rough neck stuff" and invite our wives. Music was furnished by the Clear Lake high school orchestra which played during the dinner.

Following the dinner, Mr. John A. Senneff, Sr., prominent lawyer of Mason City, Iowa, gave a very interesting address. Everyone was satisfied that this was the best meeting because of the prominent visitors that we had, and suggested that we have one of these at least every three months.

T. E. Davidson, Secretary.

Cerro Gordo-Floyd Counties

On May 28 at 6:00 p. m., the Floyd and Cerro Gordo County Medical Societies held a joint meeting at the Country Club in Charles City. After a six-thirty dinner the following program was presented by the Cerro Gordo County Medical Society: Angina Agranulocytosis, S. A. O'Brien, M.D.; Clinical Diagnosis of Heart Disease, E. L. Wurtzer, M.D.; Pre-operative Treatment of Goitre, T. A. Burke, M.D.; Malta Fever—Post Mortem Report, L. R. Woodward, M.D.; Case Report of Megaloureter, N. C. Stain, M.D.; Amoebiasis—Case Report, C. L. Marston, M.D. Thirty-five members of the two societies were in attendance.

F. H. Fillenwarth, Secretary.

Chickasaw County

Drs. Peck and Myers of Des Moines conducted a chest and lung clinic at Nashua, May 24, under the

auspices of the Chickasaw County Medical Society. In the evening the members and guests of the society met at the Sunset Inn for a fish supper, after which Dr. Nicholas Schilling gave an account of his recent trip to the medical centers of Europe. At the business session, Drs. Paul E. Stuart and Paul E. Gardner, were re-elected president and secretary, respectively of the county society.

Dallas-Guthrie Society

At the Dallas-Guthrie Medical Society meeting, which was held Thursday, June 6, at Woodward, the topic of the day was Public Health and Legislation, with the following speakers: Channing G. Smith, M.D., Granger, Senator L. H. Doran, Boone; Representative George H. Hopkins, Guthrie Center; Representative Frank Hollingsworth, Boone; Dr. D. C. Steelsmith, Des Moines, Deputy Health Commissioner, and Mr. Vernon D. Blank, Des Moines, managing director of the State Society.

Fayette County

The Fayette County Medical Society met Monday June 3 at Clermont. After a six-thirty dinner at which Drs. Jerdee, Carr, Mercer, King and Moon were hosts, the following program was presented: Cholecystic Disease, H. W. Rathe, M.D., Waverly, and X-ray Films of the Chest, J. C. Shellito, M.D., Independence.

Hancock-Winnebago Society

The quarterly meeting of the Hancock-Winnebago County Medical Society was held in the Hawkes Hotel at Forest City on May 29th. Dr. W. H. Barbour and Dr. F. G. Carlson of Mason City presented excellent papers on the subjects of Goitre and Acute Otitis Media, respectively. Attorney Burt J. Thompson gave an instructive talk on collections. Dr. T. J. Irish also gave a report on new medical legislation. The next meeting will be held at Eagle Lake Park.

George E. Searly, Secretary.

Harrison County

The June meeting of the Harrison County Medical Society was held at the home of the president, Dr. C. S. Kennedy, in Logan. Drs. Ballinger and O'Keefe of Council Bluffs spoke on Goitre and Emil C. Junger, M.D., of Soldier gave a general talk on conditions affecting the doctor and his duty to the public.

Johnson County

Morris Fishbein, M.D., editor of the Journal of the American Medical Association, was the speaker at the regular meeting of the Johnson County Medical Society held Thursday, June 6. After a six o'clock dinner at the American Legion building, he spoke to the society, on The Cost of Medical Care, and in the evening gave a public address, Fads and Quackery in Medicine.

Mahaska-Marion Counties

The members of the Marion County Medical Society were guests of the Mahaska County Medical Society at Oskaloosa, Tuesday evening, June 11. After an excellent 6:30 steak dinner, the following guest or exchange program was rendered by Marion county doctors: The Management of Normal Labor, J. R. Wright, M.D., Knoxville; Forceps and Pituitary Extract in Obstetrics—Their Uses and Abuses, F. M. Roberts, M.D., Knoxville; Some of the Clinical Manifestations of Blood-Pressure Variations, F. P. Ralston, M.D., Harvey. The Marion County Society will be hosts to the Mahaska County Society at their regular September meeting, at which time the Mahaska members will furnish the essayists for the scientific program.

Marshall County

More than 150 physicians, wives, and guests attended the annual banquet of the Marshall County Medical Society held Monday, June 3, at the Elmwood Country Club, Marshalltown. The scientific session was held in the afternoon at which time the following program was presented: Factors of Importance in the Treatment of Renal Lithiasis, Verne C. Hunt, M.D., Mayo Clinic, Rochester, Minnesota, and Nephritis, Edward G. Bannick, M.D., Mayo Clinic, Rochester, Minnesota.

Monroe County

The Monroe County Medical Society held its regular meeting Thursday evening, June 13, after a six o'clock dinner at the Imperial Cafe, Albia, Iowa. The following program was presented: Paper by T. R. Castles, M.D., Albia; delegates' report of state meeting, J. F. Stafford, M.D., Lovillia; Report of Cases, and Round Table Talks.

T. A. Moran, Secretary.

Polk County Picnic

The annual picnic of the Polk County Medical Society was held at Greenwood Park in Des Moines

on Thursday, June 20. The weather was perfect, the attendance large and "a good time was had by all".

Scott County

Tuesday, June 4, the Scott County Medical Society met for their regular monthly meeting. Drs. Bendixen and Donahue reported on the state medical meeting, and Dr. Louis Kornder gave a paper, Some European Views on Medical Problems.

John I. Marker, Secretary.

Washington County

The Washington County Medical Society met Tuesday, June 4, to listen to a paper on Goitre, which was presented by K. L. Johnston, M.D., of Oskaloosa.

Wayne County

The members of the Wayne County Medical Society met Monday afternoon, June 10, for a clinic on Goitre. Following a dinner served at the Merchants Hotel, a paper on Goitre was presented by K. L. Johnston, M.D., of Oskaloosa.

Woodbury County

The May meeting of the Woodbury County Medical Society was held Wednesday, May 29, in Sioux City. Following the six-thirty dinner served at the Elks Club, James Taylor, M.D., presented The Care of Obstetrical Patients in General Hospitals.

Twin Lakes District Medical Society

The seventh annual assembly and dry diagnostic clinic of the Twin Lakes District Society was held at Burns' Alhambra Pavilion, Twin Lakes, Rockwell City, Thursday, June 20. This society includes the county societies of Calhoun, Carroll, Greene, Ida, Pocahontas, Sac, Webster and Wright, and the all day session was attended by some one hundred fifty physicians and guests. The morning was devoted to two clinics, the first by Sumner L. Koch, M.D., assistant professor of surgery, Northwestern University Medical School; Clinic in Industrial Surgery. He was followed by Andrew H. Woods, M.D., director of the Psychopathic Hospital at the State University of Iowa; Clinic in Psychopathic Disease.

At noon, physicians, guests, and their families adjourned to the state park a mile and a half north of the pavilion where a bounteous picnic luncheon was served. The first thing in the afternoon the president introduced visiting officers of the State Society. Past President McManus pointed out the advantages to be gained by closer coordination of district societies with the state association. W. A. Rohlf, M.D., president-elect, spoke a word of welcome from the State Society, and Dr. Channing G. Smith, chairman of the Council offered the services of that body. Dr. D. C. Steelsmith, deputy commissioner of Health, and Vernon D. Blank, man-

aging director of the State Society, reported briefly upon legislative matters. Governor Hammill appeared during the afternoon and addressed the gathering.

The afternoon program was as follows: "Quo Vadis Medico?", A. R. Mitchell, M.D., Lincoln, Nebraska; Allergy as it is Encountered by the General Practitioner, W. W. Duke, M.D., professor of experimental medicine, Kansas University School of Medicine, Kansas City, Missouri; Diagnostic and Therapeutic Suggestions Covering Some of the Chronic Abdominal Conditions in Infants and Children, Julius H. Hess, M.D., University of Illinois College of Medicine. W. A. Alvarez, M.D., Mayo Foundation, Rochester, Minnesota, was scheduled for the last thing in the afternoon. Being delayed en route he presented his paper, Diagnosis of Gastro-Intestinal Disease, and a motion picture, Peristalsis, in the evening.

The officers of the society were, Dr. C. H. Morse, Eagle Grove, president; and Dr. Paul W. Van Metre, Rockwell City, secretary-treasurer.

Woman's Auxiliary Authorized

During the business meeting the society voted the already existing woman's organization the right to become an official Woman's Auxiliary of the Twin Lakes District Medical Society. That permitted the women to organize and apply for affiliation with the state and national auxiliaries. Mrs. G. C. Moorhead of Ida Grove, president of the auxiliary, called a meeting in the early afternoon, which was addressed by the state president, Mrs. M. N. Voldeng; president-elect, Mrs. E. L. Bower; and second vice-president, Mrs. David H. Hopkins.

Des Moines Valley Association

The fifty-sixth annual meeting of the Des Moines Valley Medical Association was held in Ottumwa, Tuesday, June 18. The weather was perfect, the attendance large and the program of high quality.

The morning session was at the Ottumwa Hospital. After a business meeting, Walter L. Bierring, M.D., Des Moines, Iowa, opened with The Diagnosis of Gall-Bladder Disease with Special Reference to Subjective and Reflex Signs. He was followed by Edwin C. Ernst, M.D., ex-president of the Radiological Society of North America, St. Louis, Missouri, on The X-Ray in Diagnosis of Gall-Bladder and Biliary Tract Disease.

One hundred physicians and guests sat down to luncheon at the Ottumwa Country Club at 12:30. The afternoon session was held in the St. Joseph Hospital. L. L. McArthur, M.D., Chicago, Illinois, gave an illustrated paper, Surgery of the Bile Tracts; and J. P. Simonds, M.D., dean and professor of pathology, Northwestern University Medical School, Chicago, Illinois, closed the program with Pathology of the Gall-Bladder. Both sessions were marked by lively discussion which evidenced the general interest in the program.

This association is one of the older organizations in the state, having first met on January 7, 1873. It has had a continuous existence since that time. This year's officers were: President, Dr. K. L. Johnston, Oskaloosa; first vice-president, Dr. M. Bannister, Ottumwa; second vice-president, Dr. L. F. Crave, Deep River; and secretary-treasurer, Dr. H. A. Spilman, Ottumwa.

At the business meeting the following were elected for the coming year: President, Dr. E. A. Sheafe, Ottumwa; first vice-president, Dr. Rex V. Henry, Hedrick; second vice-president, Dr. Charles D. Shelton, Bloomfield. Dr. H. A. Spilman was again elected secretary-treasurer and Dr. Vernon Downs, Ottumwa, was made assistant secretary-treasurer.

Sioux Valley Medical Association

The thirty-fourth annual session of the Sioux Valley Medical Association was held in Sioux Falls, South Dakota, at the Cataract Hotel, June 25, 1929. The morning session opened at 10:30 with the President's Address by C. P. Dolan, M.D., Worthington, Minnesota. The results of the business session were as follows: Dr. Emil C. Junger, Soldier, Iowa, president; Dr. J. C. Ohlmacher, Vermillion, South Dakota, vice-president; Dr. J. D. Dales, Sioux City, Iowa, vice-president; Dr. E. G. McKennon, Pipestone, Minnesota, vice-president. Dr. J. H. Henkin, Sioux City, Iowa, and Dr. W. R. Brock, Sheldon, Iowa, were re-elected as secretary and treasurer, respectively.

The scientific session which convened in the afternoon at one o'clock consisted of the following papers: Diagnosis of Gastro-intestinal Diseases, Walter C. Alvarez, M.D., Mayo Clinic, Rochester, Minnesota; Involutional Psychosis, Ernest M. Hammes, M.D., St. Paul, Minnesota; Surgical Treatment of Vascular Diseases; Geza DeTakats, M.D., Northwestern University Medical School, Chicago; Early Diagnosis of Congenital Hypertrophic Pyloric Stenosis and Early and Differential Diagnosis of Intussusception, Harry Monroe, M.D., Omaha, Nebraska.

PERSONAL MENTION

Dr. C. F. Starr, Mason City, started his duties as district governor of the Lions Clubs of Iowa on June 18, the date of the international convention in Louisville, Kentucky. He was elected at the recent state convention of Lions Clubs at Council Bluffs.

Drs. L. G. Howard and F. W. Dean, Council Bluffs, announce that the latter's son, Dr. Abbott Dean, will be associated with them in their eye, ear, nose and throat practice at the Council Bluffs Clinic. He has just completed a four months' trip through Europe, visiting clinics in France and Germany.

Dr. N. M. Hansen, formerly of Shelby, has located at Council Bluffs, where he will be associated with Dr. Donald Macrae in the Jennie Edmundson Hospital.

Dr. Helge Borre, of Omaha, Nebraska, comes to locate in Shelby.

Dr. F. C. Armstrong, of Harlan, has accepted an appointment with a large clinical group in the south. After taking a postgraduate course at the Michael Reese Hospital in Chicago, he and Mrs. Armstrong will go there, where they will make their future home.

Dr. J. C. Schmidtke and family are leaving Williamsburg for Illinois.

Dr. D. M. Fuiks, a recent graduate of the medical college of the State University of Iowa, has located in Manchester and is now engaged in the practice of medicine and surgery in that city.

Dr. J. W. Stiers of Muscatine leaves in July to become a medical associate at the Koch Cancer Foundation, Detroit, Michigan.

Dr. Conan Peisen, Des Moines, will be associated with Dr. J. T. Strawn, internal medicine specialist, at Des Moines.

Dr. H. P. Engle and Dr. F. E. Carpenter will be associated in an eye, ear, nose and throat practice at Newton.

Dr. B. H. Sherman of Dexter drove to California for a few weeks' vacation. While there he appeared on the program of the California State Medical Association at Hollywood, June 22.

Dr. Thomas P. Brennan, of Iowa City, assistant professor of psychiatry in the University, has accepted a position in Northville, Michigan, where he will be assistant superintendent of the Wayne County Training School, a school for training the problem children from the courts of Detroit.

Dr. David James, formerly of Columbia, Utah, has located in Kamrar.

The Harlan Hospital has just moved into new quarters, a building owned by Dr. Herman Bocken.

Dr. J. L. Statler, formerly of Hopkinton has announced his future association with Dr. P. E. Gibson of Monticello.

Dr. R. W. Wood and family left Newton about the middle of June for New York City, from there sailing June 22 for an extended European trip.

Dr. H. W. Graber has just come from Chicago to Fremont, where he will take up his residence and practice.

Dr. and Mrs. Frank T. Seybert have returned to their home in Council Bluffs from a four months' trip, during which time they visited in California, and took the Panama Canal trip, returning through the East.

Dr. Eugene B. Munier Joins Staff of The Retreat

Dr. Eugene B. Munier, of South Gifford, Missouri, has been appointed to the medical staff of The Retreat, at Des Moines. Dr. Munier, in addition to several years of private practice, has had extensive neuro-psychiatric experience in various institutions, including the Chicago Sanitarium, Chicago, Illinois, City Sanitarium, St. Louis, Missouri, U.S.V.B. Hospital, St. Louis, Missouri and the Central State Hospital, at Lakeland, Kentucky.

OBITUARIES

Crowley, Jay M., of Rock Rapids, died at the age of fifty of a ruptured gall-bladder; graduated in 1903 from the Northwestern University Medical School, Chicago. At the time of his death he was a member of the Lyon County Medical Society.

Fee, Richard M., of New Virginia, died at the age of sixty-six of a paralytic stroke; graduated in 1898 from the College of Physicians and Surgeons, Keokuk. At the time of his death he was a member of the Warren County Medical Society.

Richmond, A. C., formerly a resident of Fort Madison, died in Arbela, Missouri, at the age of seventy-six of a brain abscess; graduated from the Keokuk Medical College. He had long been a member of the Lee County Medical Society.

Death of Dr. J. M. Crowley, Secretary of Northwest Iowa Society

Dr. Jay M. Crowley of Rock Rapids, Iowa, died at Osceola Hospital, Sibley, June 19th, aged fifty years, after a very brief illness. Death was due to peritonitis following a ruptured gall-bladder.

Dr. Crowley was born at Pecatonica, Illinois, April 11, 1879. He pursued his premedical studies at Cornell College and Iowa State University and received his medical degree from Northwestern University in 1903.

In 1905 he was united in marriage to Lucy Pinder of Goldfield and to this union were born two sons and one daughter.

For twenty-five years Dr. Crowley has been practicing his profession in this community, the last eighteen years in Rock Rapids.

His ability, unselfishness, and willingness to serve combined with his many other sterling virtues, caused him to be held in high esteem not only as a doctor but as a man among a wide circle of friends and acquaintances who deeply regret his untimely death.

He always took a deep interest in church, community, and professional affairs. For many years he has been the very efficient secretary of the Northwest Iowa Medical Society and was one of its past presidents. He was a captain in the National Medical Reserve Corps and a veteran of the Spanish American War. He was prominent in church and lodge work.

He is survived by his widow, two sons, and one daughter. His mother, two brothers and one sister also survive him.

L. L. C.

NEW AND NON-OFFICIAL REMEDIES

Parke, Davis & Co.:

Ampoules of Pitocin.

Ampoules of Pitressin.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- YOUTHFUL OLD AGE—By Walter M. Gallichan—The Mac Millan Co., New York—Price \$2.50.
- TEXT BOOK OF CLINICAL NEUROLOGY—By M. Neustaedter, M.D.—F. A. Davis Co., Philadelphia.
- PHYSIOLOGY OF BONE—R. Leriche and A. Policard—Translated by Sherwood Moore, M.D., and J. Albert Key, M.D.—C. V. Mosby Co., St. Louis—Price \$5.00.
- EDEMA AND ITS TREATMENT—By Herman Elwyn, M.D.—The MacMillan Co., New York, 1929—Price, \$2.50.
- THE TONSILS AND ADENOIDS AND THEIR DISEASES: INCLUDING THE PART THEY PLAY IN SEPTIC DISEASES—By Irwin Moore, M.B., C.M.—The C. V. Mosby Co., St. Louis, 1928—Price, \$6.50.
- DISEASES OF THE THYROID GLAND—By Arthur E. Herzler, M.D.—Second Edition, Entirely Rewritten—The C. V. Mosby Co., St. Louis, 1929—Price \$7.50.
- DISEASES AND DEFORMITIES OF THE SPINE AND THORAX—By Arthur Steindler, M.D., F.A.C.S.—With 76 Plates—The C. V. Mosby Co., St. Louis, 1929—Price, \$12.50.
- SURGICAL PATHOLOGY—By William Boyd, M.D.—Second Edition, Revised and Reset—Octavo of 933 Pages, with 474 Illustrations and 15 Colored Plates—Philadelphia and London: W. B. Saunders Company, March, 1929—Cloth, \$11 Net.
- DISEASES OF THE NOSE, THROAT AND EAR—By E. B. Gleason, M.D., LL.D.—Sixth Edition, Thoroughly Revised—12mo. of 617 Pages, with 262 Illustrations—Philadelphia and London: W. B. Saunders Company, 1929—Cloth, \$4.50 Net.
- MEDICAL CLINICS OF NORTH AMERICA—Vol. 12, No. 2—Nebraska University Number, September, 1928—Per Clinic Year, July, 1928 to May, 1929—Octavo of 254 Pages with 40 Illustrations—Paper, \$12.00; Cloth, \$16.00 Net—Philadelphia and London—W. B. Saunders Company, 1928.
- BIRTH CONTROL OR THE LIMITATION OF OFFSPRING BY PREVENCEPTION—By William J. Robinson, M.D.—Forty-sixth Edition, Revised and Enlarged—Eugenics Publishing Co., New York, 1929.
- THE PHYSIOLOGY OF LOVE—By George M. Katsainos, Ph.D., M.D.—Privately Printed at Boston, Mass.—Price \$4. (Address Author—176 Huntington Ave., Boston, Mass.)
- INTERNATIONAL CLINICS—Edited by Henry W. Cattell, M.D.—Vol. II, 39th series, 1929—J. B. Lippincott Co., Philadelphia.
- THE NEUROSES—By Israel S. Wechsler, M.D.—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$4.00 Net.
- THE NOSE, THROAT AND EAR AND THEIR DISEASES—Edited by Chevalier Jackson, M.D. and George M. Coates, M.D.—Assisted by Chevalier L. Jackson, M.D.—Octavo Volume of 1177 Pages with 657 Illustrations and 27 Inserts in Colors—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$13.00 Net.
- CLINICAL LABORATORY METHODS—By Russell Landram Haden, M.D.—Third Edition—C. V. Mosby Co., St. Louis, 1929—Price \$5.00.
- THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928—Volume XX—Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M.D. and Mildred A. Felker, B.S.—Octavo Volume of 1197 Pages with 288 Illustrations—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$13.00 Net.
- THE CONQUEST OF CANCER BY RADIUM AND OTHER METHODS—By Daniel Thomas Quigley, M.D.—F. A. Davis Co., Philadelphia, 1929—Price, \$6.00.
- CLINICAL ASPECTS OF VENOUS PRESSURE—By J. A. E. Eyster, M.D.—The MacMillan Company—New York, 1929—Price \$2.50.

BOOK REVIEWS

MEDICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Month.) Volume 12, Number 5, (Southern Interurban Clinical Club Number, March, 1929); 306 Pages with 40 Illustrations. Per Clinic Year, Paper, \$12; Cloth, \$16, Net. Philadelphia and London: W. B. Saunders Company.

In this volume of the medical clinics, there appear four articles of a special interest to the southern practitioner or the physician coming in contact with tropical and semi-tropical diseases. The clinics of Dr. C. C. Bass entitled "Pellagra"; Dr. Bryce W. Fontaine, entitled "A Case of Tropical Sprue Endemic in Tennessee"; that of Dr. F. M. Johns, "Amebiasis, with Special Reference to its Treatment with Iodo-oxo-quinolin Sulphonic Acid", and that of Dr.

Fred W. Wilkerson, "Dietetic Difficulties in the South" will be found especially enlightening.

It is noteworthy that in this same volume four very useful articles dealing with the blood-vascular system appear. The clinics of Dr. C. Sidney Burwell entitled "Three Types of Circulatory Failure"; that of Dr. C. L. Eshleman "Some Types of Hypertension"; of Dr. George Herrmann, "Cardiothoracic Distress (Types) Differentiation and Treatment with Especial Reference to Sympathectomy", and Dr. G. Canby Robinson, "A Case of Coronary Occlusion, Associated with Ventricular Paroxysmal Tachycardia" treat the subjects indicated in a highly useful fashion. The Clinic of Dr. Chaille Jamison entitled "A Case of Pernicious Anemia" and that of Dr. V. P. Sydenstricker "Sickle-cell Anemia" will be particularly useful to the physician especially interested in hematology. (Continued on advertising page xix)

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BOOK REVIEWS

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TUBERCULOSIS AND HOW TO COMBAT IT

A Book for the Patient—By Francis M. Pottenger, A.M., M.D., LL.D., F.A.C.P., Monrovia, California. Second Edition, Cloth, 275 Pages. Price \$2.00. The C. V. Mosby Company, St. Louis, 1928.

The second edition of this already popular book has been brought up-to-date by suitable additions and corrections. One new chapter on the "Will to Get Well" has been added. The entire text is written in clear, concise, and colorful language which will be readily understood by the patient of average intelligence. All essential information for the welfare of the patient and for the safeguarding of his friends will be found without tedious detail. The author has infused his message with that spirit of optimism so necessary in engendering the morale essential to the proper management of this disease. He believes in the efficacy of home management in the treatment of this disease, although he rightly stresses the added benefit to be expected from institutional regime, particularly in the early stages of treatment. The book will prove especially useful for the patient inclined to upsets due to worry over his progress as the "ups and downs" of this disease are fully and optimistically discussed.

THE TECHNIC OF LOCAL ANESTHESIA

By Arthur E. Hertzler, A.M., M.D., Ph.D., LL.D., F.A.C.S., Professor of Surgery in the University of Kansas; Surgeon to the Halstead Hospital, Halstead, Kansas, Etc. Fourth Edition. Cloth, 284 Pages, 164 Illustrations. Price, \$6.00. The C. V. Mosby Company, St. Louis, 1928.

Since this volume first appeared in 1925 it has passed through four editions—a fact which bespeaks its popularity. The author has presented the subject in as brief a fashion as is possible and still maintain clarity. This has been accomplished by the standardization of such steps in the procedure as seemed permissible. The experienced operator will find sufficient detail given to make all procedures plain, although the uninitiated may experience some difficulty with the more complex techniques. Spinal and sacral anesthesia are briefly discussed.

In any volume of this sort the suggestions assisting in the selection of suitable cases should receive considerable space as this factor is of paramount importance in obtaining good results. This is of especial importance in a treatise upon the subject of local anesthesia, since the variety of anesthetics available makes the selection of the one for use in the particular case a matter of careful surgical judgment.

The volume is well printed and illustrated.

INJECTION TREATMENT OF INTERNAL HEMORRHOIDS

By Marion C. Pruitt, M.D., L.R.C.P., S. (Ed.) F.R.C.S., (Ed.) F.A.C.S., Associate in Surgery, Medical Department Emory University, Georgia Baptist Hospital and Grady Hospital; Proctologist, Davis-Fischer Sanitarium and Anti-Tuberculosis Association, Etc. Cloth, 137 Pages, Illustrated. Price, \$3.00. The C. V. Mosby Company, St. Louis, 1929.

This monograph, prepared by one thoroughly experienced with the method discussed, will prove intensely interesting to those physicians and surgeons treating hemorrhoidal conditions, by any method, and instructive to those contemplating the injection treatment as a procedure in future cases. The attitude ordinarily assumed by the general surgeon is that operative procedures are the only ones applicable to the treatment of internal hemorrhoids, and that any other method, such as the one discussed by the author, should be avoided by conscientious practitioners, presumably because the charlatan and the "quack" have so often resorted to non-surgical treatment. Such reasoning, however, is fallacious, and it behooves all of us to investigate with an open mind any form of practice which will bear scientific scrutiny, and if the method in question is superior in any detail, seriously contemplate adding it to their "armamentarium". The thoughtful reading and study of Dr. Pruitt's monograph will do much to enlighten the profession relative to this very useful procedure, and at the same time, will inform them regarding its scope of usefulness—indications and contraindications.

SAFEGUARDED THYROIDECTOMY AND THYROID SURGERY

A Manual Designed as a Practical Guide for the General Surgeon, by Charles Conrad Miller, M.D., with Fifty-two Illustrations. F. A. Davis Company, Philadelphia, Publishers, 1928.

This volume is intended for the "general surgeon", as the author points out, apparently employing the term to designate the surgeon who is operating without close affiliations with his colleagues or with a hospital. Its avowed intent is to give the timid general surgeon courage and the technical instruction which will make him a safe operator. Some of the subjects given consideration in special chapters are of particular interest: Exophthalmos; Tests to Confirm Diagnosis; Collapse of the Trachea; Protecting the Parathyroids, and the various chapters on cardiac disease in goiter and the special consideration which it commands. As one lays down the volume he does so without having attained the conviction that were he himself a goiter patient he would willingly entrust his fate to the occasional

operator. One is instead impressed with the many important phases of goiter and its treatment, which can only be touched upon in a volume of this scope, and with the desirability of conscientious study and supervised clinical experience for the surgeon, be he a "general surgeon" or the surgeon in some special field, who desires to treat the thyroid patient. Miller's citations on the increasing incidence of goiter would suggest this field of surgery as a particularly promising one. C. B. L.

DIAGNOSTIC METHODS IN INTERNAL MEDICINE

By Samuel A. Loewenberg, M.D., F.A.C.P., Assistant Professor of Clinical Medicine, Jefferson Medical College, Etc. With 547 Illustrations, Some in Colors. F. A. Davis Company, Publishers, Philadelphia,

This volume has been prepared by Dr. Loewenberg to fill a need in bedside diagnosis for the internist and general practitioner. The volume does not attempt to cover the specialties, but is intended solely as a general reference guide. Dr. Loewenberg has included a large amount of absolutely new material and observations, taken from his own extensive practice. His presentation is direct, forceful, and systematic. A well-organized index assists the reader in securing the information desired without delay. Since general practice or internal medicine should be a prerequisite for all specialization, such a volume should make an instant appeal to all physicians, whether practicing a specialty or not.

PHYSICAL THERAPEUTIC TECHNIC

By Frank Butler Granger, M.D., Late Physician-in-Chief, Department of Physical Therapeutics, Boston City Hospital; Etc., With a Foreword by William D. McFee, M.D., Boston, Mass.; 417 Pages With 135 Illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$6.50 Net.

This volume, prepared by Dr. Frank B. Granger reviews in a highly optimistic fashion the benefits to be expected from various forms of physical therapy. In common with other guides covering this phase of medical practice, the author has reviewed and recommended certain procedures in physical therapy which are, for the conditions indicated, not the procedures of choice. In fact, in many instances such a course of practice may lead to serious delay in securing the prompt relief which should be expected by other therapeutic means. His technical descriptions are unusually complete, and will prove of inestimable value to both the novice and the expert in physical therapy. The numerous well-executed illustrations add materially to the value of the volume.

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TUBERCULOSIS IN CHILDREN*

LEE FORREST HILL, M.D., Des Moines

The problem of tuberculosis in children is materially different from that encountered in the adult. In immunity, pathology, diagnosis, and outlook the disease differs so much from the adult form that several writers have spoken of the childhood type as being a clinical entity. Until it is generally recognized that, in children, tuberculosis is primarily not a disease of the lungs as it is in adults, there cannot be made the progress in controlling tuberculosis of all ages that should be made.

The essential point of difference between the childhood type and the adult type is that in the former the individual's tissues are reacting to the presence of tubercle bacilli for the first time, while in the latter the infection proceeds modified by the previous experience gained by the body in dealing with tubercle bacilli. The childhood type is a primary infection, the adult type a secondary infection.

When tubercle bacilli invade the tissues for the first time they readily pass to the regional lymph nodes unhampered by immunity, or allergy, or sensitivity; all of which mean cell resistance. Reinoculations, if, and when, the allergic reaction has become established, meet with cell resistance at the focal point, thus preventing the spread of organisms to the lymph nodes.

Chadwick¹ in discussing the two types says, "The juvenile type of tuberculosis is a children's disease, sometimes found in adults, and manifests itself by a small, discrete, sharply circumscribed primary lesion, accompanied by a much greater involvement of the tracheo-bronchial lymph nodes. The adult type of tuberculosis is a disease of older people, but is occasionally found in children. It is usually found as a diffuse lesion in the upper third of the lung, and there is no associated clinical involvement of the adjacent

lymph nodes. Adolescence is a border line period in which either one of the two types may be found, or the juvenile type may be found combined with the adult pulmonary disease".

The first pathology produced in a child by the aspiration of tubercle bacilli into a lung is the formation of a primary nodule which may vary in size from microscopic to pea size. It may be single or multiple, and involve either or both sides, depending upon whether the inoculation is single or repeated. The lesions occur more often in the upper lobes of the lungs although the lower lobes are only slightly less frequently involved. They are located at the periphery of the lungs. If healing occurs calcification eventually takes place in this primary nodule so that its presence is often revealed in the x-ray film. In autopsies of children who have been infected with tuberculosis the percentage of primary nodules found varies directly with the diligence of the search.

The tracheo-bronchial lymph nodes become involved as the result of lymph channel drainage from the primary nodule. The two together constitute the primary complex of Ranke. Tuberculosis of the tracheo-bronchial lymph nodes then becomes the essential pathological picture of the childhood type of the disease. Hilum tuberculosis, and juvenile tuberculosis are synonymous terms with childhood tuberculosis.

The disease process may extend no further than the glands, and healing, with calcium deposit in them, readily take place. However, in infants and children there is grave danger of serious extension of the disease beyond the confines of the hilus glands. If this occurs such catastrophies as miliary tuberculosis, tuberculous meningitis, tuberculous broncho-pneumonia and bone or joint tuberculosis may result. Infants, in particular, show little resistance, and an infection, once it has taken place, is likely to progress rapidly to a fatal meningitis. Whether or not one of these serious forms of tuberculosis develops is dependent upon a number of factors, any or all of which may exist in the individual

*Read before the Iowa Heart Association meeting, May 10, 1929.

case. Chief among these factors are the duration of contact, the massiveness of the infection, the virulence of the bacilli, the rapidity and degree of immunity or allergy established, and the physical and environmental state of the individual.

The relation of the childhood type to the adult type is somewhat debatable. The usual conception is that expressed by Von Behring who has said; "Phthisis is the end of a song sung over the cradle of the infant", or as Fishberg says; "Infection occurs in nearly all cases during childhood, the bacilli remaining latent within the body until some exciting cause reactivates them, or the natural resistance is reduced and tuberculous disease results by endogenous infection". Opie² on the other hand, says in a recent publication, "Pulmonary tuberculosis of adults is not derived from the disease of childhood, but is the result of new infection and pursues a chronic course, because some immunity induced by preceding disease still persists". Whether apical lesions are the result of endogenous or exogenous infection may well be left to future decision.

That tuberculous infection may exist in children entirely unsuspected, is amply proven by the reports of numerous workers who have tested large groups of children for tuberculin sensitivity.

The prevalent conception, based upon statistics secured in European cities, that 90 per cent of children who have reached the age of adolescence have become infected with tuberculosis is much too high an estimate for most parts of this country.

Chadwick,³ reporting the results of the first two years of the "Ten-year Program" undertaken by the Massachusetts Department of Health found 28.5 per cent positive reactors to the Pirquet test applied to 30,000 school children. Since then about 30,000 more have been tested, and the percentage of reactors remains the same. It should be noted that only children ten per cent or more underweight, or known contacts, or those known to be in poor health were included in the group. It is reasonable to suppose that a state like Iowa with its smaller cities and relatively larger urban population would show an even smaller percentage of reactors.

Special importance must be attached to children who have been in contact with known cases of tuberculosis. The percentage of reactors in contacts is about four times that of non-contacts. It should be assumed until proved otherwise that infants or children living in close proximity to open cases of tuberculosis are infected or will become infected. The longer the contact and

the younger the child the greater the danger to the life of the individual.

In diagnosing tuberculosis of the childhood type it should be the aim of the physician to recognize the condition in as many cases as he can while it is still in the lymph gland stage. If disease has advanced sufficiently to be recognized by physical signs and symptoms the outlook is much more grave. It can readily be understood that in the lymph node stage of involvement all that may be required to throw the balance in favor of retrogression and healing are a few additional health regulations. Knowledge gained at this stage by the individual or his parents, ought to insure the adoption of a health program that will prevent the occurrence of pulmonary disease in later years.

For the detection of a tuberculous infection the physician has at his command a simple efficient means in the diagnostic tuberculin test. All the cells in the body become sensitized or allergic to the products of the tubercle bacilli as a result of the immunological process set in motion following the first infection. Sensitivity to tuberculin can always be elicited, if inoculation has taken place, except in the first few weeks before allergy has become established, or in those cases where complete healing has occurred with loss of allergy, or where an overwhelming infection has resulted in inability to produce allergy.

The intensity of the local reaction to tuberculin is a definite measure of the activity of the focal process. A reaction at the focus of infection, in response to introduction of larger doses of tuberculin is manifested by malaise, and rise in temperature; and in pulmonary disease, by objective signs of increased activity such as rales, and by greater density in the x-ray film.

The cutaneous application of tuberculin as described by Pirquet is the simplest method, but is somewhat less sensitive than the Mantoux or intradermal test. Forbes and Green⁴, state that 1/100 mg. of Koch's old tuberculin, injected intracutaneously, yielded the same number of positive reactions as the Pirquet test, but that 1/10 mg. of O.T. increased the group percentage by six per cent.

In suspected cases where the Pirquet test is negative (if it has been used) intracutaneous tests should be done with 1/100 mg. O.T., 1/10 mg. O.T., 1.0 mg. O.T. If no reaction occurs with the latter dosage it may safely be concluded that sensitivity to tuberculin is not present.

Having determined the presence of a tuberculous infection it is next necessary for the phy-

sician to determine the extent of the lesion. All positive reactors to tuberculin should have an x-ray film of the chest. A calcified primary nodule or calcified tracheo-bronchial lymph nodes are presumptive x-ray evidences of tuberculosis. Care must be taken in interpreting the x-ray film not to confuse, with enlarged lymph nodes, the even round shadows which are cast by arteries filled with blood radially situated to the film. Nor do prominent bronchial tree markings have any significance so far as the presence of a tuberculous infection is concerned. Projections into the lung field from the hilus may be due to inflammation about an involved tuberculous lymph node. As healing progresses the shadow lessens until finally only a calcified gland is left. Figures 1 and 2 illustrate this point.

Emphasis should be placed upon the fact that physical examination of children in the diagnosis of tuberculous hilum glands is of very little value. Most authorities agree that D'Espine's sign and interscapular dullness are too indefinite to be of any practical value. Hetherington⁵ concludes that "Underweight has little if any value in the diagnosis of latent tuberculosis".

However, even though diseased hilum glands can satisfactorily be demonstrated only by x-ray, a careful general physical examination should never be neglected. Its purpose should be to recognize any other diseased conditions of tonsils and adenoids, sinuses, and teeth, which might be the cause of the patient's symptoms, or which might interfere with the patient's fight against his tuberculous infection.

As has been said before, some idea of the activity of the tuberculous lesion is to be gained from the intensity of the local tuberculin reaction. The extent of involvement as shown in the x-ray film is also indicative of the progress the disease has made.

If x-ray films of the chests of children, who remain in contact with tuberculosis, be made at intervals of three to six months the beginning of an apical lesion may be demonstrated before symptoms or physical signs make their appearance. Such lesions have been described by Opie⁶ as latent apical tuberculosis. Months or years may pass before disease manifests itself by such symptoms and signs as rales, cough, fever, or hemoptysis.

McPhedran⁷ states that "there are no symptoms due to uncomplicated tracheo-bronchial tuberculosis which has not extended through the capsule of the lymph node. When persistent cough is present, adequate films will usually reveal a pulmonary infiltration".

It would seem therefore that the occurrence of symptoms in children with demonstrable tuberculous infection is to be interpreted as meaning that the disease has already advanced to a severe degree. It is assumed that all other causes for the symptoms will be ruled out.

Such symptoms as fatigue, failure to gain or loss in weight, afternoon rise in temperature, particularly on exertion, possibly night sweats, and possibly cough, call for most careful treatment and observation.

The method of handling children who have a tuberculous infection but who do not show symptoms of a progressive disease is important. Routine checkups should be made at least every three months for observations on weight, temperature, and general health. Any diseased foci such as tonsils and adenoids, abscessed teeth, sinusitis or otitis media should early be eradicated. The occurrence of other respiratory infections such as severe colds, whooping cough, or measles, should be regarded with concern. It is well established that immunity which has been developed against the tuberculous process, may, following one of these diseases, be lost with resultant widespread dissemination of the disease. The importance of

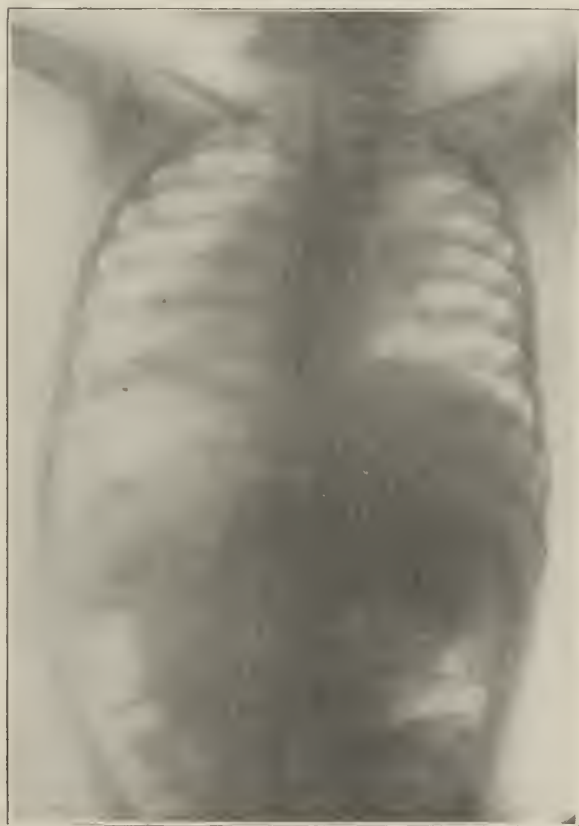


FIGURE 1. Tuberculous lymph gland with triangular shadow extending into lung parenchyma. Interpreted as inflammatory reaction about the gland.

a carefully regulated diet, ample rest and sleep, and the avoidance of fatigue cannot be over-stressed to the patient and parents.

Air baths after the method of Rollier are of unquestionable value. The establishment of more preventoria for the care of children whose home facilities are unsuitable will be a distinct forward step. Open air schools for all tuberculin sensitive children are desirable. But overshadowing all these measures in importance is the avoiding of further contact with open tuberculosis.

Prevention of tuberculosis in infants and children is deserving of particular mention. Much greater care could be exercised by physicians and nurses in scrutinizing the environment into which the new born infant is to come. The detection of an open case of tuberculosis in parents, relatives, roomers, or employes, if all danger is to be eliminated, requires the absolute removal of the infant from any possible contact with the infectious source. Some statistics taken from an article by Asserson⁸ illustrate the point in question. Of twenty-three infants, under one year of age of actively tuberculous mothers who had positive sputums, nine, with negative skin reactions, were removed to boarding homes. All nine were alive at the end of the first year. Of the remaining fourteen, who had to remain in their homes because they were infected when discovered, twelve or 86 per cent were dead at the end of the year.

Prevention of tuberculosis in infants, born into a tuberculous environment, by protective inoculation, is advocated and practiced by Calmette⁹ of Paris, France.

This measure consists of the oral administration of living bovine bacilli which have been grown in glycerine ox-bile media. While the organisms retain their viability, they have lost their power to produce tuberculous lesions. Calmette claims that these attenuated bacilli readily pass through the intestinal mucosa and lodge in the mesenteric lymph nodes. The infection produced is too slight to be harmful, yet sufficient to render the individual immune to any fresh infection with virulent tubercle bacilli. About 100,000 infants have now been vaccinated. The mortality rate in this group is given as less than one per 100 in contrast to the rate of 25 per 100 non-vaccinated infants under similar conditions.

In a recent issue of the Journal of the American Medical Association, Dr. Arvid Wallgren¹⁰ expresses some doubt as to the efficacy of Calmette's method. He advocates the administration of Calmette's vaccine intradermally. Positive tuberculin reactions are secured after this



FIGURE 2. Same patient six weeks later after adenoidectomy and hospital treatment. Inflammatory reaction about the gland subsiding.

method whereas they remain negative when the oral method of administration is followed. Wallgren thinks the intradermal method produces an immunity but that it presents too many difficulties to ever become generally used.

It is to be hoped that further experimentation will develop a practical, efficient method of vaccination against tuberculosis, but until that time arrives the only sure preventive measure available is the avoidance of contact with open cases of tuberculosis.

CONCLUSIONS

1. There is need for a more general understanding of the differences between tuberculosis of children and tuberculosis of adults.
2. Tracheo-bronchial lymph gland tuberculosis is the typical lesion of childhood.
3. Escape of the tubercle bacilli beyond the lymph nodes gives rise to serious or fatal forms of the disease recognizable by physical signs and symptoms.
4. About one-fourth of the child population is infected with tuberculosis.
5. In the great majority of these the infection exists in a latent form in the lymph nodes

and is not to be recognized by physical examination or by such symptoms as underweight.

6. Diagnosis depends upon (1) History of contact. (2) Reaction to tuberculin. (3) X-ray. (4) Ruling out of focal infections.

7. Extent of the lesion is to be determined by x-ray; progress of the lesion by clinical study of the patient, and by repeated x-ray films.

8. Infected children of the type described should have optimum hygienic regulations, and should be removed from the danger of further infections.

9. Prevention of tuberculosis in infants and in children can only be secured by avoidance of contact with open cases.

10. Vaccination with attenuated bacilli is promising but still experimental.

11. The recognition of lymph gland tuberculosis in childhood together with the establishment of health and educational measures, could materially decrease the morbidity of adult tuberculosis.

12. More general use of tuberculin tests by the general practitioner is urged.

The following case history is appended to illustrate the subject matter of the paper.

Case: Patty B., age 2 yrs., 4 mos., was the only child of supposedly healthy parents. Father's father had died years before of what might have been tuberculosis.

Weight at 6 months was 16 lbs., 4 ozs., at 13 mos., 22 lbs. Walked at 15 months.

Only illnesses during first 2 years were occasional colds and two attacks of otitis media.

At two years of age an attack of pyelitis occurred. Reoccurred 3 months later in severe enough form to require hospitalization. A routine Pirquet test was strongly positive. Physical examination of chest entirely negative. Both ear drums of catarrhal type during first month of stay in hospital. Constant post nasal purulent discharge. Tonsils normal. No cervical adenitis. No evidence of malnutrition. No fever after attack of pyelitis subsided.

More careful questioning of parents brought out the fact that the father had had a pulmonary hemorrhage ten years before. Examination at that time had failed to disclose any tuberculosis and he had considered himself in fairly good health. He was referred to a chest specialist who found definite evidence of an active pulmonary tuberculosis, with positive sputum.

On the basis of the marked sensitivity to tuberculin, x-ray findings, and history of contact, a diagnosis of tracheo-bronchial tuberculosis was made.

Under ether anesthesia the adenoids were removed. Ear drums returned to normal, post-nasal discharge cleared up, appetite improved, cough ceased, and normal gains in weight occurred.

In the x-ray film the triangular shadow extending into the lung parenchyma was considered to be due to inflammatory reaction about the gland. The second plate taken six weeks later shows beginning subsidence of the inflammatory area.

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RHEUMATIC FEVER AS AN ALLERGIC DISEASE*

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Heart disease in children and in the early part of adult life follows an infection of the body, usually in the tonsils or nose and throat area. The infection causing heart disease is frequently also followed by rheumatic fever. In influenza, the acute contagious diseases, pneumonia and occasionally other infections, injury to the heart may follow. Rheumatic fever is associated in practically every instance with some injury to the heart. The degree may vary and at times may be very slight. Because of this relationship, rheumatic fever assumes an important role in the discussion of heart disease in modern life.

The term rheumatism discarded years ago as being too ambiguous and ill defined is once again finding its way in literature. It is being used in a broad way to describe the process that takes place in the body when there is an infection associated with joint pains, fever, heart disease, chorea and certain other less important manifestations. When used in this sense the term rheumatism is permissible and it would be so construed in this discussion today. It bears some resemblance to the use of "tuberculosis". Our conception of tuberculosis today is that an individual may have a localized tuberculous infection

*Read before the Iowa Heart Association, Des Moines, Iowa, May 10, 1929.

in any region of the body and also there are those individuals in whom it is not possible to demonstrate clinical lesions of tuberculous infection in the body. Therefore, the terms rheumatism and tuberculosis may be comparable to each other.

MANIFESTATIONS OF RHEUMATIC FEVER

Rheumatism is a disease which varies in its manifestations with the period of life at which it is seen. In children the joint symptoms are not a prominent feature of the infection and may be so slight as to escape notice. They are poorly localized, ill defined, mild in degree and rarely associated with objective findings of redness, swelling and localized pain. The characteristics most frequently present up to and including the age of puberty may be described as proliferative in nature. It is rare to find children under the age of four with rheumatism and it is most frequent at about eight to ten years. These proliferative changes are characterized by subcutaneous nodules situated about joint capsules, along tendon sheaths and in certain other locations, such as the scalp, the sternum, etc. These nodules are not painful, they vary in size, they appear in crops, last from a few days to a few weeks and disappear without trace. Organisms may be recovered from them occasionally, when they are removed and cultured, though they are generally sterile. Aschoff bodies in the heart muscle are comparable in their nature to the subcutaneous nodules and probably represent the same process in this part of the body. They are characteristic of rheumatic fever and are not seen in any other infection. These two changes compare in their anatomic picture with the primary tubercle of tuberculosis and the granuloma of syphilitic infections. More recent studies of rheumatic fever have shown that throughout the smaller arterioles of the body, more especially the lungs, spleen, kidney, brain and wall of the aorta there may be changes occurring in the walls of these vessels. These changes probably represent some response on the part of the body to the rheumatic infection. Individuals who are capable of putting forth this response may be described as being in a positive reacting state of hyperergy. There are also individuals who show signs of an overwhelming rheumatic infection whose progress downward is very rapid and who terminate in a fatal outcome. These individuals rarely show rheumatic nodules though Aschoff bodies are constantly found in the heart muscle. These individuals have been described as being in a state of negative reaction of anergy. This state may be comparable to other aplastic processes seen in the human body.

When rheumatism occurs in older children and young adults, it is not common to find these proliferative changes. At this period of life it is more common to find swelling in the joints, redness, pain, fever, leukocytosis and skin manifestations such as purpura, erythema multiforme, etc. The rheumatic fever is apt to come in the form of attacks at this period of life and in the interval, the patient may be relatively free of symptoms. These attacks vary greatly in severity. They are characterized principally by these exudative phenomena and the chances of injury to the heart are less than in a younger child. While a patient may show at the same time both proliferative and exudative phenomena it is generally true that one or the other type of reaction predominates. The transition period between childhood and adult is always poorly defined.

It has been suggested that the type of joint changes seen in older individuals may represent the same process at a different period of life, that is, in the adult of thirty or more years with focal infections and joint symptoms there may be either hypertrophic or atrophic changes in the joints and tendon areas of the body. These changes may be described as degenerative in nature and may bear some relationship to the proliferative and exudative phenomena described above. The response of the individual to one and the same infection in later life may be characterized by these degenerative joint lesions without the same tissue response in the heart and consequently with little or no chance of injury to this organ. It has been suggested that arterio-sclerosis in certain individuals may follow the vascular injury seen in the more acute form of rheumatic fever of earlier life. The fact that certain families seem predisposed to show a rheumatic response to focal infections at various times of life may explain the occurrence of this lesion in older people.

CONCEPTION OF RHEUMATISM

For many years the cause of rheumatism was ascribed to many different factors. Among these might be mentioned the weather, diet, poisons arising within the body and described as autointoxication, climate, poisons arising outside the body of one type or another, occupation, dampness, intemperance, etc. While these factors are assumed today to play some part in the occurrence of this condition, we know that they are of secondary value. They may be regarded as being among those predisposing factors similar to those which help in the spread of tuberculosis. About twenty-five years ago the conception of focal infections as the cause of rheu-

matic fever reigned supreme. It could be shown that many or all of these people with rheumatic fever or rheumatism showed foci of infection in tonsils, teeth, sinuses, cervical glands, gall-bladders, etc. The idea prevailed that in these foci an active infection elaborated a poison of some type which passed into the body through the circulating blood and exerted some influence on tissues and structures remote from this focus. There was some reason for assuming that at times bacteria, principally streptococci were discharged into the blood stream from these latent foci resulting in septicemia and other focal responses. This observation led to a third conception that rheumatic fever might be a blood stream disease. Cultures made on the circulating venous blood and from areas of the body involved in the rheumatic process occasionally showed pathogenic organisms. Organisms of many types have been recovered, so many that it hardly seems probable that that could be the cause of the condition. One of the earliest of these organisms to be identified was that described by Poynton and Payne as the diplococcus rheumaticus. Since that time many others have been discovered and described; invariably these organisms belong to the group of streptococci. Recent studies have shown that they belong for the most part to a large unclassified group of organisms designated as indifferent streptococci, that is, they do not have the well defined characteristics of the hemolytic streptococcus, streptococcus viridans and the other somewhat specific streptococci of erysipelas, scarlet fever, etc. Within this group of indifferent streptococci organisms may be identified having somewhat similar but slightly varying biological and cultural characteristics. Further study may show that from this group there may be identified one organism as the sole cause of rheumatic fever.

When attempts were made to reproduce rheumatic fever in laboratory animals invariably it was impossible to cause such a condition. Organisms could be introduced into the body through various routes under varying conditions without a response resembling rheumatic fever. On the whole, the animals responded either with some form of sepsis without joint signs or with no response whatsoever. Following repeated intravenous injections of a large amount of fresh broth cultures of streptococci of various types, it was possible in a few instances to produce a joint lesion and changes in the heart muscle resembling somewhat those seen in human beings with rheumatic fever, but on the whole, the experimental work of this time has been disappointing. At

this point the conception that rheumatic fever might be an allergic response in the body to an active focus of infection seemed possible. A brief discussion of the ideas which lead to this assumption and the work which has been done subsequently to substantiate it may now be in order. The marked resemblance between rheumatic fever and tuberculosis has been pointed out repeatedly and has led in part to the fact that in as much as the response in the body of patients with tuberculosis may represent an allergic phenomenon, the same process might be at play in rheumatic fever. The epoch making work done by Von Pirquet and others in the development of our present conception of tuberculosis has done much toward showing that rheumatic fever might be a similar process. Swift in particular has pointed out the many resemblances that exist between these two diseases and it is to him as much as to any other that we are indebted for our present conception of rheumatic fever as an allergic disease. Serum sickness also is a condition which has many points of similarity to rheumatic fever. Within a few days, seven to ten following the injection of horse serum or other foreign protein, hypersensitive patients respond with fever, painful joints, swelling, erythema multiforme, prostration, leukocytosis and many phenomena that are similar to the exudative phenomena of rheumatic fever. This condition disappears within a short time, leaving the patient normal, though still in a hypersensitive state. At times it may be difficult to differentiate between an attack of rheumatic fever and one of serum sickness following the introduction of the foreign protein. This phenomenon of serum sickness or allergic response implies the fulfillment of certain conditions. First, that the patient has previously received through some route an amount of foreign protein sufficient to change in some manner his tissue cells so as to result in hypersensitivity. It implies also that subsequent to this initial sensitizing dose there is an introduction of this same foreign substance into his body. It further implies that there remains some sensitizing focus, from which foreign protein is elaborated either continuously or from time to time. In this discussion today of rheumatic fever as an allergic disease our conception must be maintained in this sense. The mechanism of allergy and other forms of altered response are undergoing changes as study of this subject proceeds. The details remain to be worked out with greater clearness in order to explain the various mechanisms that may be at play.

Two facts of importance in the experimental

work on rheumatic fever has indicated that this disease may be allergic in nature. First, it has been shown by Swift that if a large number of rabbits are injected intracutaneously with varying amounts of living streptococcus broth cultures a certain number will show at the end of seven or ten days a secondary response about the site of the previous injection. This response is characterized by the appearance of redness and swelling which lasts for four or five days and disappears. Not all animals show this reaction nor has it been determined what factors are present which cause the reaction to occur. Whether or not the reacting animals have acquired a sensitivity is not clear. When the animals showing this secondary reaction receive further injections of streptococcus culture filtrates through any portal of entry there results a reaction of hypersensitivity. These animals then may be said to be in a hyperergic state. If the cornea of these sensitive animals is scarified slightly and streptococcus filtrates introduced in the conjunctival sac there follows a reaction similar to that which is present in the skin. This reaction corresponds to the conjunctival response to the introduction of tuberculin in sensitive individuals. By repeated injections it is possible to increase the tissue sensitivity so that on intravenous injections the animal may die. Second, it has been shown that tissue sensitivity can be created in animals by the establishment of a focus of infection. This can be done by the introduction beneath the skin of a mass of fluid agar which solidifies on cooling in the body. Streptococci then may be introduced in this area of agar implant so that their growth is not interfered with by tissue cells. From this area bacterial products can pass readily into the blood stream in much the same way that they might do from an infected tonsil or sinus. Following this procedure these animals can be tested by intracutaneous injection of bacterial filtrates and it can be shown that there is a definite response indicating an acquired sensitivity. The introduction of the bacterial filtrate again in this type of animal may be along any path. The response in the tissue is similar no matter where the portal of entry may be.

At present, attempts at desensitizing these animals to streptococcus filtrates has been attempted with a certain degree of success. It has been possible to render the animal immune to the extent that the reaction in the skin is altered materially following the process of desensitization. Skin testing shows a small, firm, area quite different from the previous reaction of hyperergy.

CLINICAL OBSERVATIONS

From these studies on animals one may look for phenomena in children suffering from rheumatic fever that could be explained on the basis of an allergic response. It is evident that children with rheumatic fever show some focus of infection either in tonsils, sinuses, nasal mucus membrane or elsewhere. These foci show varied periods of activity and severity. It has been noted that following a cold or tonsillitis in a person predisposed to rheumatism there may be a fresh attack of joint pains. The period when the joint pains appear after the cold corresponds in point of time closely to the sensitization phenomena. It has also been noted that the severity of the activity in the focus of infection bears no relationship to the response in the joints and other parts of the body, that is, the area of activity may be both slight in degree and limited in extent and yet there may follow a severe attack of rheumatic fever or carditis. It has also been noted there are certain families who are predisposed to these responses. This tendency may be inherited from one generation to another which seems probable, or it may be the result of acquired sensitivity, the result of contact infection. Which of these two factors predominates in causing rheumatic fever remains yet to be decided. It has also been noted that cultures from the nose and throat area of patients with rheumatic fever show consistently streptococci of various types. The relative numbers of the different types may vary in different areas or at different times but the organisms are always to be found in this area of the body. The removal of tonsils and adenoids has been advocated in order to remove these active foci of infection. More recent studies have indicated that there is some doubt as to whether further attacks of rheumatic fever and carditis are prevented by this procedure. This unfortunate result could be explained on the basis of the individual having become sensitized before the tonsils were removed even though the focus of infection in the tonsils then is removed from the body. Any infection located at other points of the body might then provoke a response in the joints, heart, etc. That this does occur is well known to all of us. It has been interesting to note in a child with a history of rheumatic fever at the St. Louis Children's Hospital who has had his tonsils and adenoids cleanly removed and has no signs of active infection elsewhere, suffered a blister on his heel from rubbing. This blister broke and became infected. There was redness and a few fine lines around the wound. His

temperature rose somewhat. Under proper care this infection subsided in about three days but four days later he suffered an acute attack of rheumatic fever. In this instance the infection causing the attack was obvious. In many other children, however, the area of infection may be in some hidden spot in the nose and throat which escapes notice. It is suggested, therefore, that this conception of allergy is sufficient to explain the attacks of rheumatic fever occurring in children who have had apparently all foci of infection cleared up.

In a study of a large group of children with rheumatic fever, at the St. Louis Children's Hospital, it has been very clear that when it is possible to keep these children free of colds and other infection in their home or at a convalescent hospital, that the attacks of rheumatic fever, chorea, etc., are materially diminished both in severity and in frequency. This improvement could be explained only on the basis of keeping these children free of minor colds.

It is well known that rheumatic fever and its allied conditions tend to relapse most frequently in the three spring months. Common experience shows that while these children have few or no colds in the summer, in the fall they begin, after school opens, to have minor infections in the nose and throat. In the winter these colds assume a greater seriousness. They are more frequent, there is more response in the body and evidence of increasing activity of infections. Shortly following this period of intense reaction there is this tendency for the individual to show joint pains, chorea, carditis, etc. Predisposing factors, which in the years past were supposed to be the natural cause of rheumatic fever may be of importance in causing the onset of an attack. These factors are about the same ones that are of considerable importance in the control and care of children with tuberculosis. Briefly, they are fatigue, either of the body or mind, intemperance, bad food, bad housing and exposure to contact infection. These ideas would reemphasize the necessity of supervision and controlling these secondary factors in order to exert any evidence on the occurrence of rheumatic fever and through the control of these factors much can be accomplished toward the prevention of heart disease.

This conception of rheumatic fever as an allergic disease offers some hope for its control and probably eventual relief to patients with heart disease. If it is possible to clean up foci of infection and in some way prevent the occurrence of common colds either through some specific measure such as increasing immunity or

specific treatment a good deal will have been accomplished toward preventing the recurrence of rheumatic fever, carditis, etc. Whether or not some method of desensitizing an individual with rheumatic fever with the resulting production of an immune state as yet is not certain. It would seem from animal experiments that such a condition can be brought about. With the development of further work there is hope that such a method will be made available for human beings. If animals who have been made hypersensitive are given measured quantities of streptococcus filtrates over repeated intervals, it has been possible to show that they develop an immune reaction to intracutaneous injections of streptococci. This process of desensitization needs careful control because the margin of safety between the development of an immune state and the development of an anaphylactic reaction is a very narrow zone. For this reason it is yet not advisable to try it on human beings.

THE INJECTION TREATMENT OF VARICOSE VEINS*

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The surgical treatment of varicose veins has given very good results in a high percentage of cases, particularly the method described by C. H. Mayo. In this method the veins are removed.

The injection treatment of varicose veins is a comparatively new method and gives promise of coming into general favor because it is an ambulatory treatment. Pravaz, in 1851, when working with different solutions of iron, found that ferric chloride hastened the coagulation of blood. He therefore employed this solution in the treatment of aneurysms by injection. Linser, in 1911, while he was treating a patient with syphilis by means of mercuric chloride, observed that after repeated injections the veins became thrombosed. This suggested to him the possibility of using mercuric chloride in the treatment of varicose veins and he used it until 1923. At that time, he abandoned the use of solutions of mercury because of their occasional toxic effects and resorted to strong solutions of sodium chloride, from which he obtained good results. Coincident with the work of Linser, similar work was done by Kausch, Genevrier, Sicard and Nobl, the latter three of whom used solutions of glucose, of

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FIGURE 1

FIGURE 2

FIGURE 1. Marked varicosities of the left leg extending 7.5 cm. above the popliteal space and down to the middle of the calf. Four injections of quinine-urethane solution of 2 c.c. each were given at two-day intervals.

FIGURE 2. The left leg immediately following the last injection.

quinine dihydrochloride and urethane, and of sodium salicylate. All have reported good results.

McPheeters and Rice have used the injection method with very satisfactory results in treating a large number of patients with varicose veins. It is their opinion that no one solution can be used in every case. They have carefully reviewed the seven deaths which have occurred and they firmly believe that in every case acute or latent phlebitis was present at the time the injection treatment was started.

Three hundred fifty patients have been treated by de Takats with splendid results. He believes that pulmonary emboli are less likely to develop if the patient is ambulatory than if he is immobilized in bed. He emphasizes the fact that injections should not be made higher than the middle of the thigh for fear that the deep veins in the pelvis might be involved by the thrombosis, due to their suction action.

Any of the solutions which have been mentioned, if injected intravenously, produce first cloudy swelling of the endothelium; following this, proliferation occurs. From these proliferated cells fibrous tissue arises, in the mass of which are lodged blood cells. Thus a firm thrombus is produced. This process results in the vein ultimately becoming a fibrous cord. Sicard has found hyalinization taking place in this chemically produced thrombus as early as five days after injection.

There have been reported 54,000 cases of varicose veins which have been treated by the injection method. Among these are seven cases in which emboli developed. Four of these occurred in cases in which acute phlebitis existed at the time the treatment was begun. This condition now is considered one of the contraindications to treatment. Phlebitis should always make one anxious concerning the possibility of emboli developing. Other contraindications are hypertension and arteriosclerosis.

In selecting cases for this method of treatment, the same care should be exercised as when the condition is to be treated surgically: namely, it should be determined whether or not the deep venous circulation of the extremity is patent. For this determination the Trendelenburg test may be employed. The patient is placed in a recumbent position, and the extremity is elevated to empty the veins as nearly as possible. Pressure is then made on the first portion of the saphenous vein, and the patient stands. If the superficial veins fill immediately it is at least presumptive evidence that the deep veins are not functioning. Perhaps a surer method is to have the patient



FIGURE 3

FIGURE 4

FIGURE 3. Tortuous varicose veins over the inner aspect of the left leg.

FIGURE 4. Appearance of the leg after treatment. The patient had been obliged to wear an elastic bandage for the relief of pain and swelling. For two years there had been exacerbation of eczema and itching over the lower part of the leg, evidently caused by the venous stasis. The patient received in one of the larger veins one injection consisting of 8 c.c. of 60 per cent glucose and five injections, of 2 c.c. each, of quinine-urethane. The treatments were given over a period of two weeks. After the injection of the glucose and two injections of quinine-urethane, the patient was able to discard the elastic stocking and to walk without discomfort.

wear a tight bandage for a few hours, compressing the superficial venous circulation. If this causes great discomfort the superficial veins probably have enlarged to compensate for the loss of deeper channels which have become thrombosed. In these circumstances, the superficial veins should not be disturbed.

Results in cases in which varicose ulcers are present have been satisfactory. Even before the ulcers have healed the pain which frequently is associated with them completely subsides. One patient, a woman aged fifty-four, had two large ulcers, of twenty-nine years' duration, on the anterior surface of the leg; these healed completely after the veins around the ulcerated areas had been injected.

In The Mayo Clinic I have used with very satisfactory results all the solutions mentioned earlier in this paper, in the treatment of varicose veins. The technic employed at the clinic differs somewhat from those described by others. It consists in having the patient stand until the veins are filled. In this way the situation of the vein to be injected can easily be determined. As means of guarding against emboli, the use of the tourniquet and placing the patient in a recumbent position during the procedure of injection have been advocated. There seem to be two objections to the tourniquet: first, it causes engorgement of



FIGURE 7

FIGURE 8

FIGURE 7. Extraordinarily large veins involving the posterior lateral surface of the left leg and thigh.

FIGURE 8. Appearance immediately following the last injection. Ten injections were given into the veins; 2 c.c. of solution of quinine-urethane was injected each time. The larger veins are noticeable even following treatment because sufficient time had not elapsed for their complete disappearance.

normal veins, and second, the thrombus which occurs following injection forms mostly downward from the point of injection. This suggests that the flow in large varicose veins is very sluggish and in certain cases is in the reverse direction from the normal flow. The tourniquet therefore cannot be thought of as preventing emboli getting into the general circulation.

Of the various substances I have used, quinine dihydrochloride and urethane seems to be the solution of choice except for use in cases of very large veins. In these cases, a 60 per cent to 70 per cent solution of glucose is used, and 8 to 10 c.c. are injected each time. The solution of quinine and urethane is prepared by the department of chemistry and is dispensed in ampules of a capacity of 2 c.c., each cubic centimeter containing 2 grains (0.12 gm.) of quinine dihydrochloride and 1 grain (0.065 gm.) of urethane. The solution of glucose is put up in ampules of 10 c.c. each.

After the treatment, a small bandage is placed tightly over the site of the injection for a period of two to three hours, and the patient is allowed to continue his duties. These injections are given three times a week. Twenty-four hours following the injection a definite thrombus of the vein can be palpated easily. The number of injections required in a given case naturally depends on the



FIGURE 5

FIGURE 6

FIGURE 5. Varicose veins of both legs, more marked on the left.

FIGURE 6. Result of treatment. There had been considerable aching in the left leg after a day's work. Apparently the veins of the right leg, which were moderately enlarged had caused little trouble. Six injections were given; four in the left leg, and two in the right.

extensiveness of the condition and whether or not both extremities are involved.

Figures 1 to 8 show the immediate results in four cases of varicose veins following the injection method of treatment. All of the photographs were made immediately following the last injection and therefore some of the veins were still noticeable; nevertheless, they were firmly thrombosed and the subjective symptoms were absent. These cases represent a cross section of the large number of patients treated at the clinic by the injection method. Every case of varicose veins which previously would have been treated by the surgical method has been treated by injection.

The main advantages of this type of treatment as compared with the surgical method are:

1. The treatment is ambulatory.
2. The percentage of recurrences by this method is comparatively small because the complete thrombosis which occurs eventually causes complete obliteration and disappearance of the veins. The surgical method is satisfactory in the majority of cases, but because it is almost impossible to remove all the tortuous veins and their communicating branches, recurrence is more likely and is more common than with the present method.
3. The chemical thrombosis brought about by the injection method is different from the ordinary thrombosis. In the chemical thrombosis there is first a marked cloudy swelling of the endothelium of the intima from which is thrown out a network of fibrous tissue, in the meshes of which are caught red and white blood cells. This causes rapid obliteration of the lumen of the vessel. Hyalinization occurs in from five to ten days after treatment.
4. The length of time required for the vein to disappear completely depends on its size; usually it disappears in from three to ten weeks.
5. Phenomena suggesting the presence of emboli have not been present in our series of several hundred injections, and there have been no severe reactions following injections.
6. Although it is not necessary and perhaps it is not wise to attempt to use any one solution in every case, it would seem that the solution of quinine and urethane comes nearer to answering the purpose in most cases than any other solution yet used. Glucose is efficacious; its use in this series, however, lately has been limited to the larger veins, chiefly because of its viscosity and the difficulty encountered in attempting to inject it with a small needle.

7. The contraindications to injection treatment are arteriosclerosis and acute or latent phlebitis.

8. In case of pregnancy the solution of quinine and urethane should not be used.

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CONTROL OF INTRACTABLE PAIN*

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Our present day knowledge of control of intractable pain is a result of numerous clinical observations coupled with trials and errors. In control of intractable pain the surgeon is concerned with relief of pain and not with the cause of the underlying pathological condition of which the pain is a symptom. Such relief is a palliation, but one that makes life bearable to the unfortunate one. Narcotics and especially morphine notoriously fail to relieve intolerable pain after the latter has persisted for a more or less long period of time.

There are three stations where sensation of pain may take origin: the peripheral receptors, the afferent fibres and the central gray masses. Because of the wide distribution of peripheral receptors, and because in most cases intractable pain is referred, an attack on the receptors is not to be aimed at in control of pain. For obvious reasons an attack upon the central gray masses, optic thalamus, in patients suffering from pain due to an irritative process in these end stations of pain perception is also out of question. Control of pain is thus based upon surgical interruption of the afferent fibres through which the pain is transmitted to the brain.

Accumulated evidence has shown that sensation from any given area is transmitted through more than one route, so that interruption of one

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route leaves the other passable. For practical purposes, however, we may accept that sensation enters the spinal cord mainly through its posterior roots. The pain fibres carried in the posterior roots terminate in groups of cells situated in the dorsal horns. The axons of these cells pass through the anterior commissure to the opposite lateral column; there they turn upward, form the spino-thalamic tract and terminate in the optic thalamus. Section of the spino-thalamic tract of one side leads to a loss of sensation of pain and temperature on the other side of the body. It is obvious that such a section is possible only up to the level of the upper dorsal segments. An attempt to section this tract in the lower cervical segments, where the numerous anterior horn cells cause the cervical enlargement of the cord would entail injury to the pyramidal tracts. For these reasons, for control of pain in the region of the shoulder and neck the attack is to be directed against the individual posterior roots. Since the pain fibres cross the cord obliquely and take normally up to four segments for a complete decussation, control of pain in the upper dorsal region rests upon a blockade of the individual posterior roots, and not upon a section of the antero-lateral tracts. In pain of the face the interruption of sensation is sought in the sensory root of the trigeminus which corresponds anatomically to the posterior root of that region.



FIGURE 1. Section of the left antero-lateral tract. The section is performed from within the arachnoid; the dentate ligament is divided and the cord is rotated. The knife is inserted just in front of the attachment of the dentate ligament to the cord. (From Peet, *Archives of Surgery*, Vol. 13: 156, 1926.)

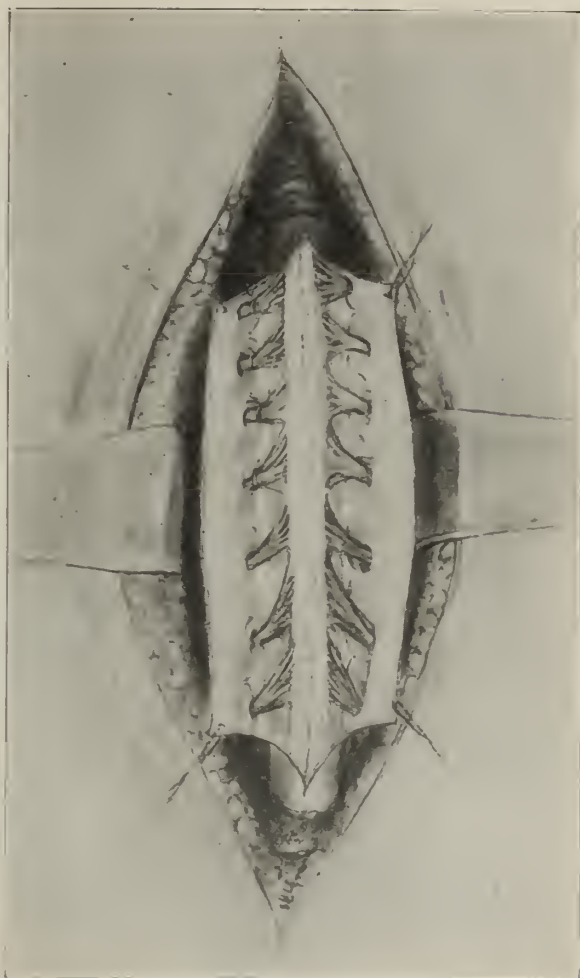


FIGURE 2. Rhizotomy. Showing exposure of the posterior roots of the lower cervical and upper dorsal region. Several of the roots are crushed and ligated.

Section of the spino-thalamic tracts is usually termed chordotomy, while section of the posterior roots of the spinal cord is known as rhizotomy. The choice of the one or the other procedure will depend entirely upon whether the pain is limited to a region below the level of the distribution of the sixth dorsal segment. In choosing the proper surgical procedure it is well to remember that occasionally the main bulk of pain may be referred to one region and overshadow other pain elsewhere; the masked pain may come to the fore later after relief of the severe pain.

The rationale of a section of the spino-thalamic tract for intractable pain in the contralateral side of the body was pointed out by Spiller in 1911, while Schueller suggested this procedure for abdominal crises in 1910. Martin was the first to perform this operation in 1912. Although the number of instances reported in the literature in which this operation was done is not large, chor-

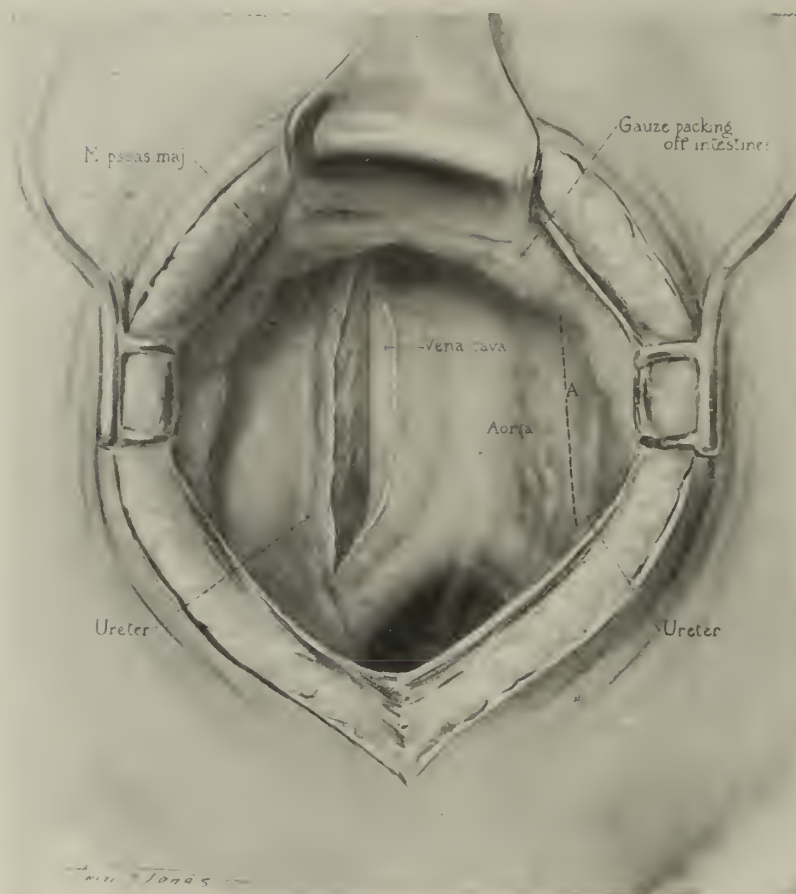


FIGURE 3. Lumbar sympathectomy. Incision through the parietal peritoneum over the mesial edge of the psoas muscle. (From Kanavel and Davis, *Surg. Gyn. & Obst.*, Vol. 42: 738, 1926).

dotomy may be considered a standardized procedure, which offers no great difficulties to those familiar with the special technique of operating upon the spinal cord.

The choice of the level of section of the antero-lateral tract will vary with the individual case, but it is of prime importance to remember that the section must be at least four segments proximal to the area which is to be rendered painless. Since in most cases intractable pain is caused by an inoperable malignant growth it is better to section the tracts in the upper thoracic region. In this region one encounters the normal anatomical curving of the spine posteriorly, and this simplifies the operation.

The laminectomy may be limited to two laminae. The dura is incised in the usual manner, the arachnoid is opened and the section of the tracts is carried from within the arachnoid. A dentate ligament is grasped with a fine tooth forceps; its attachment to the dura is cut and the cord rotated for exposure of the antero-lateral tracts. For the division of the tract a cataract

knife is well suited. The knife is inserted just in front of the dentate ligament to a depth of three millimeters, the blade is then swung anteriorly parallel to the antero-posterior axis of the cord, aiming at the median side of the anterior root. The important points in this procedure are, first, to avoid injury to the pyramidal tracts situated immediately posteriorly to the sectioned portion of the cord, and second, to make the division deep enough, lest the level of analgesia will be found much lower than it was expected. The topographical relations of the sectioned portion of the cord is seen from figure 1.

The operation of rhizotomy was suggested by Dana in 1886. It consists of a laminectomy with an intradural crushing of the involved posterior roots. Before proceeding with the operation one must be clear as to the proper posterior roots to be blocked. Because of overlapping of the areas of distribution of the adjoining posterior roots it is essential in blocking to add one root above and one below the actual area of pain. In intractable pain due to inoperable carcinoma of the

breast the roots D3 to D7 must be blocked. For pain in the region of the shoulder and upper extremity C5 to D3 are to be crushed. The identification of the roots presents no difficulties in the cervical and upper dorsal spine. In isolating the individual roots one must not disturb the corresponding anterior roots. This is especially important in the lower cervical and upper dorsal region. When properly done this operation does not lead to persistent motor weakness.

In contradistinction to chordotomy after which tactile sensation is preserved, rhizotomy is followed by complete anesthesia combined with analgesia. Blocking of the roots is best done by crushing each root with a fine pointed hemostate; in addition one may ligate the root at the point of crushing with a fine silk thread. Actual section of the root with a knife or scissors is not necessary and is hardly to be recommended, since one is apt to injure a blood-vessel accompanying each root.

Relief of intractable pain in the upper portion of the neck and in the face is considerably more complicated. In most cases intractable pain there is due to malignant growth about the face or throat, and in such instances the pain is usually referred to both the neck and face. Sensation of the face is supplied mostly by the trigeminal nerve, with the exception of a considerable area over the mandible which is supplied by the second cervical nerve. This fact is of importance in attempts to relieve pain there. Pain in the region supplied by the second and third cervical roots is controlled in the usual way, by a high rhizotomy. There, especial care is required in handling the cord because of the proximity of the medulla. The pain in the face is controlled by a section of the sensory root of the fifth nerve. The technique of this operation so frequently used in the treatment of tic douloureux of the fifth nerve, is at present worked out in its finest details, and in the hands of the average neurological surgeon it carries a mortality of about one-half of one per cent. The operation of section of the sensory root may be substituted by a less formidable procedure of neurectomy, in those cases of pain in the face in which the cause is inoperable malignancy. The corresponding branch of the fifth nerve is then sectioned intracranially at its exit from the cranial cavity—the third branch at the foramen ovale and the second branch at the foramen rotundum. In cases in which the first division of the nerve is involved a section of the sensory root cannot be avoided.

Chordotomy, rhizotomy and section of the sensory root of the fifth nerve are the three best established procedures in control of intractable

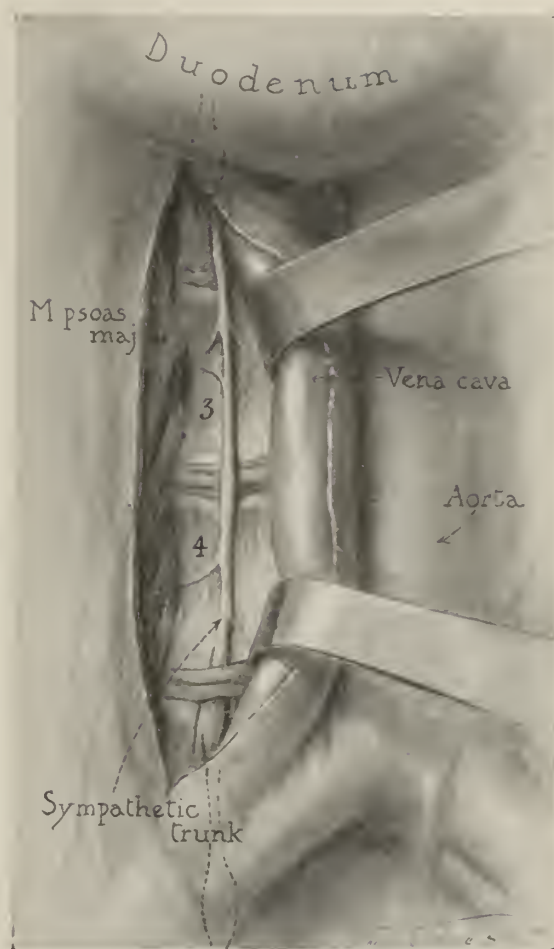


FIGURE 4. Lumbar sympathectomy. The right lumbar sympathetic trunk and its relation to the vena cava. (From Kanavel and Davis, *Surg. Gyn. & Obst.*, Vol. 42: 739, 1926.)

pain. Occasionally, however, one will encounter an instance, when pain is localized in a single organ and when control of pain would seem to call for a more limited procedure. In laryngeal pain blockade of the afferent fibres of the larynx was tried. In pain due to lesions of the liver and gall-bladder exclusion of the solar plexus was successfully accomplished. In intractable pain due to a lesion of the pancreas, section of the posterior roots D7 to D10 gave good results. However, this special phase of surgical relief is still in the trial stage, with the exception of pain in the region supplied by the pudendus nerve. This region is quite extensive, and intractable pain due to lesions about the perineum and genitalia is readily relieved by a section of the pudendus nerve. Since the S2, S3 and S4 participate in the formation of the pudendus nerve epidural injections through the sacral hiatus give good temporary relief.

During recent years we have learned to control intractable pain associated with thromboangitis obliterans, or Buerger's disease. In these

cases pain sets in only with the onset of trophic changes. This rest pain usually becomes so severe that patients beg for amputation. There is sufficient evidence on hand to maintain that such pain as well as the trophic changes can well be influenced by surgery of the sympathetic nerves supplying the involved region. In thromboangitis obliterans of the lower extremity a lumbar ganglionectomy is the method of choice. In suitable cases, those with vasomotor spasm, this operation produces persistent vasodilatation of the vessels and relieves the pain. The technique of the operation of lumbar ganglionectomy is not formidable and requires little further elucidation than is evident in the illustrations. This transperitoneal approach is simpler than the lumbodorsal route originally devised by Royle.

In the majority of the cases intractable pain will be successfully controlled by chordotomy and rhizotomy. Inoperable malignant tumors of the uterus, of the prostate, the rectum, the urinary bladder, the breast; primary or metastatic growths of the spine or pelvis; malignant diseases of the lower extremities; tabes dorsalis with lan-

cinating pains in the extremities; inoperable carcinoma of the face, tongue or larynx, with or without regional lymph node involvement; sciatic neuralgia of long standing, especially associated with traumatic injuries—this is a representative list of the conditions in which control of intolerable pain is feasible and called for.

In discussing the advisability of surgical control in cases of intractable pain the patient's wish is the decisive factor. After all it is the patient who suffers the pain, and only he knows the amount of pain he has to bear. Of course, the general condition of the patient will influence the surgeon in his decision; however, these surgical procedures can be done under local anesthesia if need be. One should refrain from long delay. Lost time merely means forming of a habit for some narcotic, usually morphine, as well as loss of strength by the patient.

In conclusion I wish to emphasize again that control of intractable pain is merely a palliation and not an attempt to cure the underlying disease. In the majority of the cases it is a palliation in patients who are on the down hill of life. Relief of pain in these patients makes them comfortable and improves their morale in meeting the approaching end. This is a truly humanitarian act with few equals in the entire field of medicine.

PATHOLOGY OF DIVERTICULOSIS

CHARLES J. DRUECK, M.D., Chicago

Congenital diverticula are usually found in the small intestine while the acquired diverticula ordinarily involve the cecum, colon and sigmoid flexure. The acquired class is generally considered as independent of development deficiency, but it has been suggested that some of these are in a certain sense, congenital.

Two types of this class have been recognized; one in which all layers of the intestinal wall are involved, the other in which only some of the layers take part. The most common type of diverticula consists of a protrusion of the mucosa and submucosa, through the muscular layer of the bowel, still covered with the serosa. This form has been described as a "hernia mucosae" and well expresses the formative process, which consists of a protrusion of the mucosa through a weak point in the muscularis.

Diverticula vary in size from that of a pea to that of a hen's egg. It may be single or there may be more than a hundred, they may be con-



FIGURE 5. Lumbar sympathectomy. The right and left sympathetic trunks and their relation to the neighboring structures. (From Kanavel and Davis, *Surg. Gyn. & Obst.*, Vol. 42: 739, 1926.)

fined to a single intestinal segment or scattered over several. The form varies from straight pouches with large sufficient openings to those of flask shape, constricted at the neck by the perforated muscular layer, with the bulged out body beneath the serosa.

The pouches may remain healthy or at any time undergo secondary changes (diverticulitis) that may extend to surrounding tissues (peridiverticulitis). Once a diverticulum has formed and feces have found their way into it, the tendency is for it to get gradually larger.

The contained feces may vary in consistency from that of the normal to hard concretions. Although the mucosa of some diverticula appears intact, yet as a result of the continued mechanical pressure of hardened fecal material and toxic irritants, the lining epithelium is frequently chronically inflamed in the same manner that stercoral ulceration takes place above a stricture of the rectum. The injury may vary in degree from atrophy to ulceration. Concretions become encapsulated within the diverticula and where the pedicle has sloughed a free foreign body may occur in the abdominal cavity.

Associated with these processes other pathological changes result.

1. As the diverticulum enlarges the walls of the sac are thinned, sometimes to such an extreme degree that only a film of peritoneum separates the diverticula lumen with its fecal contents from the peritoneal cavity. (The fecal matter may be recognized through the sac wall.) This condition had led to general peritonitis due to osmosis of bacteria or their toxins.

2. The result of incarcerated concretions and gaseous distention varies from slight abrasion of the mucosa to perforation through the wall of the sac and may set up an abscess localized to the tissue outside the sac. Such an abscess will gradually enlarge until it bursts into the bowel through the original opening connecting the intestinal lumen of the diverticulum, or the peritoneal cavity, or on to the surface of the abdominal wall. It may become adherent to the bladder and burst into that viscus causing a colo vesical fistula. Or as the result of some sudden increase in pressure the ulcer may burst suddenly into the peritoneal cavity and the resulting escape of material from the bowel will then cause a general peritonitis. Abscesses have formed in the intestinal wall, outside the wall and surrounded by coils of small intestine, in the mesentery and extending to the liver and left kidney. Abscess formations have simulated carcinoma. Fistulous tracts have resulted between the sigmoid and the small intestine

and the abdominal wall. In some cases the fistulous communication may be direct between the diverticulum and the viscus, although, oftener, it occurs by way of an interposed abscess cavity. More than one perforation has been observed in multiple diverticula.

3. Acute or gangrenous inflammation may occur with symptoms so simulating appendicitis as to suggest a transposition of the viscera.

4. The most constant pathological finding is the chronic proliferative extramucosal inflammation. This chronic process following infection is an inflammatory reaction due to leakage of toxins or bacteria through the mucosal layer of the diverticula. It is usually accompanied by inflammation of the diverticular mucosa, but this is frequently not advanced and in some cases is indiscernible. Wilson and Telling have both emphasized the essential role of this process and designated it "peridiverticulitis". In McGrath's collected twenty-six specimens presenting peridiverticulitis there were only five where the mucous membrane of the diverticula was extensively involved, in nineteen the inflammation varied from mild to a moderate degree, and in two it appeared intact.

This inflammatory condition is accompanied by the deposit of large masses of fibrous tissue, movable or fixed and further adhesions in the neighborhood of the diverticulum. This increasing mass of fibrous tissue will seriously stenose and angulate the bowel. In some cases acute or chronic obstruction has been produced in the small intestine. The sac wall becomes thickened and firm and as a result of this and the deposits of exudates (round cell infiltration) and cicatricial tissue around it, a dense elastic tumor is formed, which later because of its size, form, consistency and macroscopic appearance is frequently mistaken for carcinoma.

Of gravest importance is the frequency with which carcinoma is implanted on the inflammatory process of acquired diverticula even without ulceration of the mucosa. This tendency to carcinoma occurs particularly in diverticula in the sigmoid. In McGrath's twenty-seven cases carcinoma was present in seven (25.9 per cent). All of these were cases of advanced peridiverticulitis.

In considering this percentage (25.9) however, it is of the strictest importance for us to distinguish between the occurrence of diverticula in general, many cases of which are discovered incidentally at autopsy, and cases of diverticula with pathologic processes so extensive as to give pronounced symptoms. In McGrath's cases the inflammatory changes were advanced, a mass was

present in each and the symptoms were marked. Therefore, it is in such cases as these alone that the per cent (25.9) of carcinoma is to be considered.

That irritative conditions such as are present in these infections of intestinal diverticula are contributing causes to carcinoma is a view supported by the observations of several authorities. Among the causes cited are chronic inflammation, cicatrices, bacterial irritation and trauma. From evidence based upon over 1200 personal observations, W. B. Coley concludes; "Local trauma of any kind from chronic irritation to a single local contusion is not infrequently the direct exciting cause of malignant tumors of all types".

A consideration of this pathology is important to the clinician inasmuch as it indicates that symptoms are not to be expected at least in the early stages of the process.

PATHOLOGICAL ANATOMY

Gross appearances, external aspect—The tumor is usually round or ovoid in shape, the smaller diverticuli being oblong with the long axis transverse the bowel. Its surface is lobulated with many prominences varying in size from minute specks to that of a small cherry. The whole surface having a mottled hemorrhagic appearance. In some cases the surface presents a ribbed appearance, the elevations running parallel with the fibers of the circular muscular layer and suggesting a bulging of the mucosa between the bundles. These elevations are more numerous and largest near the bases of the appendices, epiploicae, at the mesenteric border or between the layers of the mesentery.

By dissection McGrath has found that the prominences correspond in general to those points where the vessels disappear into the muscular layer of the intestinal wall. The entrances of the larger vessels are commonly noted near the edges of the longitudinal bands, sometimes inside the edges, between widely separated bundles of the muscular fibers. The entrances of the smaller branches are variously situated on the haustra.

Each set of vessels is covered with a band of fat, which in the case of the larger branches, is continuous with that of the mesentery and terminates as an epiploic appendix in close relation to the vascular entrance.

Internal aspect—On the mucosal surface are noted round or oval openings, and in others short transverse clefts. From these points plugs containing gelatine may be expressed and then thin walled pouches demonstrated. These openings on the inner surface corresponded in location to the

elevations on the outer surface. Histologic examination confirms the experimental and anatomic observations as to the common association of these processes with the course of vessels through the intestinal wall.

Examination of the muscular coat of the large bowel showed that the longitudinal layer excepting in these bands, is usually very scant or entirely wanting and that frequently the circular layer is thin, its bundles separated, and, consequently its structure deficient.

In some instances microscopic examination reveals beginning projections of the mucosa and submucosa between widely separated bundles of the circular muscle without the presence of vessels directing their course.

There is occasionally a marked bulging and thinning of a sacculus especially in the lower part of the sigmoid where the sacculations of the bowel are smaller.

Microscopic examination of sectional diverticula walls show them composed of mucosa, submucosa and remnants of muscle fiber but in some instances only the inner and outer tunics are demonstrable.

In the study of a diverticulum of the sigmoid which was undergoing cancerous change Mellon found on sectioning the entire tissue and carefully examining each section that one presented a suspicious area. This manifested itself by an interruption of the integrity of the mucosa, which in other places was sharply delineated from the underlying muscle. The limiting margin changed to scalloped where the growth became invasive.

Microscopically there was a steady increase of atypical tubules until the definitely carcinomatous area was seen.

The atypical character of the cells was recognized in part by their very hyperchromatic nuclei noticeable particularly in the lower levels of the affected glands. This abnormality, however, did not respect even the superficial portion of the tubules as the carcinomatous portion of the tissue was approached.

A well marked, round-celled infiltration was present throughout the diverticulum, being particularly well marked in the atypical portions. It was present beyond the muscle walls, in some granulomatous tissue—peridiverticulitis. It is of note that all layers of the gut participated in the angulation process, but the mural layers, although everywhere present, did not always follow the tortuosities of the mucosa. The spaces enclosed by the sinuosities of the latter were usually shown to have definite connection with the lumen of the intestine.

In explanation of the frequency of malignant transformation in these cases, it is noteworthy that an apparently significant combination of contributory causes is here present. In support of the theory that "tissue tension alteration" is an important factor in neoplastic initiation, it would appear that in diverticulosis we have an example par excellence.

In the "complete" type of this condition, the labyrinthine windings of the mucosa, together with the obliquity and consequent separation of the muscle bundles, bear testimony to the interstitial strains that must be the resultant of these processes. And in mucosal hernia as it exists in a viscus, more or less constantly contractile, interstitial strain must again be unavoidably associated with histopathological changes in evidence, viz., passive congestion, hemorrhage, and dilatation of the incarcerated gland structures.

Nutritional disturbances are the logical sequel of this mechanical stress, which in their turn invite infection, a factor of neoplastic importance.

CASE REPORT

GONORRHEA OF THE RECTUM

HARRY A. COLLINS, M.D., Des Moines

Gonorrhea of the rectum is a comparatively rare disease and one that is easily overlooked unless the condition is kept in mind. This disease was first described in 1884 by Bumm. Gonorrhea about the anus however, is not at all uncommon.

Gonorrhea of the rectum is caused by the direct inoculation of the mucosa of the rectum by the gonococcus. It occurs more commonly in women than in men. Sodomy is the usual cause of the infection in men. It also occurs at times by contaminated instrumentation as in the case of prostatic massage. As a rule it is due to contamination from the vulvovaginal discharge when found in women.

Huber reported a series of seventy-eight cases of gonorrhea of the rectum out of 318 cases in which gonorrheal vaginitis was present. Baer reported 163 cases of it out of 429 cases that he studied. Jullien collected 1037 cases of gonorrhea of the rectum and in 157 of these cases gonorrheal proctitis was found. Blomberg and Barenberg reported a series of forty-one cases of

it in children in which the gonococcus was isolated. Yoemans says that it is a rare complication in children although at times it occurs in large numbers in institutions.

When the gonorrheal infection reaches the mucosa of the rectum, the mucous membrane becomes acutely inflamed, bleeds easily and becomes somewhat edematous. Not infrequently one will find on the mucosa small superficial ulcers which resemble the canker sores of the mouth. A heavy muco-purulent discharge is usually present.

Yeomans reported seven cases of gonorrhea of the rectum all of which were confined to the rectum. Pennington reported one case in which the entire colon was involved and Birch reported forty-two cases in which the infection had spread into the colon. Because of the resistance of the rectal and bowel mucosa to infection by the gonococcus it would appear that the extension into the colon must have been due in a large measure to a secondary infection. Stricture of the rectum is a very infrequent complication. In fact Baer reported only one case out of a series of 163 cases that he had studied.

The symptoms of gonorrhea of the rectum are variable but as a rule consist of pain in the rectum which is made worse by bowel movement, a discharge of pus, mucus and blood, and a perianal pruritis. The discharge is of a thick muco-purulent character. Mild constitutional symptoms are not uncommon.

The diagnosis is not always easy to make, especially if the infection is due to sexual perversion. However, the presence of gonorrheal vaginitis or urethral gonorrhea should suggest further study to either prove or disprove the existence of gonorrhea of the rectum. A positive diagnosis of the disease can be made if the gram-negative intracellular diplococcus is found.

The treatment is simple and very effective especially when it is started promptly. It is important that care be taken to prevent continued contamination from the vagina by sterile pads which should be placed between the vagina and the rectum. The patient should be placed at rest in bed. Hot sitz baths and rectal irrigations of 1/10,000 to 1/5,000 potassium permanganate solution two to three times each day should be started. The local application of 25 per cent argyrol should be made. Indulant ulcers should be touched up with a 10 per cent silver solution. Warm irrigations of weak boric acid or normal saline solution should be used two or three times daily after the acute inflammation has subsided. Any complicating conditions such as condylo-

mata, fissures or fistulae should receive appropriate treatment.

Case Report

E. M., a white female, aged twenty years, reported for an examination on April 22, 1929. She complained of pain in the rectum which had been present for one week. The pain, which was of an aching character, was more or less constant and was made worse by bowel movement. The bowel movements were normal and there was no blood or discharge of any kind. Her past and family history was negative.

Her general examination was essentially negative except for the rectal findings. A proctoscopic examination revealed a red edematous mucosa which was covered with a thick yellowish muco-purulent discharge. The mucosa bled easily. A small pedunculated polyp extended into the lumen of the bowel from the posterior wall of the rectum. Small white superficial ulcers could be seen here and there on the rectal mucosa. A smear was made from the rectal discharge and gram-negative intracellular diplococci were found. At the time of the second examination a pelvic examination was made. This was negative except for a slight discharge of a muco-purulent character and when examined this revealed the gonococci. Upon being confronted with the evidence the patient admitted having had sexual intercourse but stated that she was unaware of any pelvic trouble.

The patient was placed at rest in bed and given rectal irrigations of 1/5,000 potassium permanganate solution three times daily and 25 per cent argyrol was applied locally. When the acute inflammation subsided she was given irrigations of warm saline and 2 per cent boric acid solution twice daily. The polyp was removed by cautery. At the present time the patient is making a very satisfactory recovery.

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GOITER ESSAY PRIZE

The executive council of the American Association for the Study of Goiter has announced a prize of three hundred dollars (\$300) and a medal of honor to be awarded by the association to the author of the best essay based upon original research work on any phase of goiter, presented at their annual meeting at Seattle, Washington, in September, 1930.

Competing manuscripts must be in the hands of the corresponding secretary by July 4, 1930, so that the award committee will have sufficient time to

thoroughly examine all data before making the award.

Full particulars of other regulations governing details of the offer will be furnished on application to the American Association for the Study of Goiter, Rose Dispensary building, Terre Haute, Indiana.

AWARD OF THE LESLIE DANA MEDAL

In recognition of "the most outstanding achievement in the prevention of blindness and the conservation of vision", Dr. Ernest Fuchs, of Vienna, Austria, will be awarded the Leslie Dana Gold Medal for 1929. The presentation will be made at the International Ophthalmological Congress in Amsterdam, Holland, September 10, by Dr. William H. Luedde, of St. Louis, director of the Prevention of Blindness Department of the Missouri Association for the Blind, through which the medal is offered annually by Mr. Leslie Dana, also of St. Louis.

In selecting Dr. Fuchs, there was a departure for the first time from the usual custom of considering only Americans for this honor. Dr. Fuchs chartered the way for all prevention of blindness work accomplished throughout the world in the last forty-five years; he did this when he won the prize at the Fifth International Congress for Hygiene at the Hague in 1884 with his essay on "The Causes and Prevention of Blindness". Dr. Fuchs was a professor of ophthalmology in the University of Liege at that time; he has been distinguished in his profession for more than half a century.

SALE OF INFLAMMABLE X-RAY FILMS PROHIBITED

Action taken by the Public Health Council of the State of New York at a meeting held June 26, will prohibit after September 1, 1929, the sale or distribution of cellulose nitrate film for x-ray purposes. According to Dr. Matthias Nicoll, Jr., State Commissioner of Health, the action of the Council has the effect of law in New York State outside of New York City. He also states that he has been officially informed by a representative of the fire department of New York City that similar action will be taken there.

The following is the resolution adopted by the Public Health Council:

WHEREAS it is recommended to the Public Health Council by the special committee appointed by Acting Governor Lehman to investigate the hazard attendant upon the use of cellulose nitrate x-ray films in institutions in New York State that the sale of such film be prohibited in New York State and

WHEREAS the use and subsequent storage of cellulose nitrate film in institutions caring for patients or other inmates constitutes a serious danger to health and life, therefore be it

RESOLVED THAT Chapter VII of the Sanitary Code be and is hereby amended by adding thereto a new regulation to be known as regulation 17, to take effect September 1, 1929, and to read as follows:

The sale or distribution of cellulose nitrate film for x-ray purposes is hereby prohibited.

STATE HEALTH COMMISSIONER'S PAGE

 Henry Albert, M. D. 

MENINGITIS POSSIBILITIES

Cerebrospinal (meningococcic) meningitis is on the increase in the United States as in many other countries of the world. We have to date not experienced any unusual increase. The greatest prospects of an outbreak exists in the sugar beet fields of northern Iowa, where there are many Philippino laborers. The disease is especially prevalent in the Philippine Islands. Immigrants from these islands carried the disease to California, in one county of which many cases occurred several months ago. Physicians in our sugar beet section should be on the lookout for the appearance of the epidemic form of meningitis. With the appearance of a single case, the State Department of Health should receive a special notice (in addition to the regular report) so that an epidemiological investigation may at once be made.

LICENSE REVOKED

The license of a physician who had practiced medicine in Ottumwa for more than twenty years was revoked last month. The chief charge was partnership with a half-bred Indian-negro herb "doctor" who had twice been convicted of practicing medicine without a license.

"TRICHO" PEOPLE LEAVE THE STATE

Not willing to stand prosecution, the firm which had an office in the Equitable Life Building, Des Moines—and used the "Tricho" system of removing superfluous hair, closed its doors June first.

This method was recently described in the Journal of the American Medical Association. Severe burns have occurred.

SUMMER ROUND-UP

The movement known as the Summer Round-up and sponsored by Parent-Teacher Associations throughout the country is being conducted this summer by more than 200 groups in Iowa. The object of the movement is to have every

child who is to enter school for the first time next fall, examined for physical defects or disease conditions and to have such corrected as far as possible. Various methods for conducting preliminary examinations have been employed.

The following letter sent by the secretary (Dr. L. K. Meredith) to all members of the Polk County Medical Society illustrates one of the methods used:

Dear Doctor:

At the last regular meeting of the Polk County Medical Society the following report and recommendation was presented by a committee appointed to investigate the "Summer Round-up" proposed by the Parent-Teachers Association. This recommendation was accepted and passed by an unanimous vote of the members present.

To the Polk County Medical Society:

Report of Committee which met with Parent-Teachers Association Committee concerning the Summer Round-up:

"The Parent-Teachers Association are making a canvass of homes in fourteen elementary school districts of Des Moines. They are leaving an examination blank for each child that is to enter school in September, 1929 and February, 1930.

"The Parent-Teacher Association representatives are recommending that the parents take their children to their own family physician and dentist for the examination and the completion of the questionnaire; and that those who are accustomed to go to the Health Center report there to the pediatric or pre-school clinics. As we believe this to be an honest effort to promote health examinations and to bring a healthier child into our kindergartens, we wish to recommend that the Society endorse this effort of the Parent-Teachers Association and that the members assist in carrying out the program, by making complete examinations, by mailing these forms to the Parent-Teachers Association chairman, and by making the charges reasonable.

"We further recommend that a copy of this report and one of the Summer Round-up examination forms be mailed to each member of the Society. We further suggest that a program might be arranged next year in which a demonstration of child health examinations be given."

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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MEDICAL HISTORY

It is quite significant that during the past year there have come from three well-established publishers as many outstanding contributions to historical medicine. It appears quite evident that physicians as a class are assuming a greater interest in the development of medical science, and that there is a growing demand among the laity for such information. Some ten or twenty years ago, the teaching of history in the medical curriculum was frequently limited to one-half dozen or more lectures delivered by a faculty member to those students who cared to attend the lectures. In some courses, the matter was left entirely optional, and in others the lectures were given as a part of the required course. Medical history and medical economics were things that a physician was supposed to absorb and acquire in the course of other study and practice. Today our better medical schools are all including a course in medical history, which seems entirely fitting, since it is only with a full appreciation of the background of medical development that medical advancement can be secured. Then, too, there can be no greater inspiration to the practicing physician than that derived from medical biography. Finally, it must be borne in mind that the practice of medicine is not entirely a matter of science. The art of medicine which,

early in its development, catalogued this study as a profession, implies a wider knowledge, a cultural background, and a familiarity with the advance of civilization which perhaps is not required in other lines of endeavor.

To the physician or student who wishes to secure such an historical background with the minimum effort, we heartily recommend the graphical contribution of Lieutenant-Colonel Garrison entitled "History of Medicine",—(W. B. Saunders Co.)—since, in our opinion, it is the most outstanding contribution in this branch of medicine at the present time. He has unrolled a panorama of the ages with the clear insight and analysis of the master, and presented the worthwhile achievements of the outstanding physicians of each period in a manner which compels a lasting interest in the subject. The presentation, while biographic, includes an evaluation of events which assists the reader at all times in a proper orientation of detail. He has appreciated throughout the cultural aspect of his thesis and a dignified presentation adds to the charm of the volume.

The layman and physician can each profitably read "A Short History of Medicine"—(Oxford University Press)—by Charles Singer, a monograph which so pleasingly presents in a brief and

(Continued on page 380)

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS APPOINTED BY COUNCIL

Dr. B. L. Eiker of Leon, Dr. A. W. Erskine of Cedar Rapids, and Dr. A. V. Hennessy of Council Bluffs, were chosen by the Council in a recent meeting, to compose the Committee on Medical Education and Hospitals. This was in accordance with the following resolution passed by the House of Delegates, May 9, 1929:

"That in conformity with the recommendation of the Legislative Committee of the Iowa State Medical Society, the Board of Councilors be instructed to appoint a committee of three members of the Society, on Medical Education and Hospitals. The duty of this committee shall be to collect information relative to the medical care of the indigent sick in Iowa; to secure information as to the costs of such care in Iowa as compared with the cost in other states of relatively equal and like population; to collect information as to the operation of the Perkins-Klaus Laws as they pertain to the commitment of indigent persons to the University Hospital and the cost to the state of the same; to determine to what extent the operation of these laws supplies the Medical Department of the State University with proper clinical material for teaching purposes, and to collect such other information relative to medical education and hospitals as may be of value to the profession of the state."

Editor's Note: The series of editorials on cardiology will be continued in the September issue.

A Page Out of the Past

There is always to be found among the archives and the cubbyhole rooms of the older medical institutions certain events and relics which have aided in the making of medical history. The majority of these carefully kept manuscripts deals with the life and the select activities of the men associated with these schools of medicine. In Vienna one finds the notes and data of Skoda and Rokitski as carefully taken care of as the secrets of a war office, and I doubt if the crown jewels in the Tower of London are any more guarded than the history and progress notes of Billroth's first stomach resection. The room used as an operating theater by the great surgeon is hallowed ground. Just the same is a small, single, narrow-windowed room on the top floor of Insel Spital in Berne. This one window overlooks the "Jungfrau", and the room is reverently known as "Kocher Heaven". Here one can believe that the tired operator came to rest and admire the distant glaciers. A wonderful panacea for the weary.

Naturally most of the prominent events concerning this interesting lore have been published from time to time for various reasons, either out of its own merit or to elucidate some characteristic of the individual associated with it. However, now and then one finds a bit of knowledge which is not so well known, at least to a large number of those engaged in the healing art. The writer a short time ago stumbled on to such an event while rambling through the anatomical museum of the University of Edinburgh. The data was a well preserved skeleton and the tale associated with it would cutshine Poe's "Murders in the Rue Morgue". The story was interesting, not only for the tale itself, but from its close relationship to one of the fundamental branches of medicine, and to the laws which were passed to save the weary professors many an anxious hour. If any of the Journal's readers have heard of it, bear with me, for there are probably many who have not.

The skeleton was that of one William Burke, and to get the background we must go back to

January 28th a century ago. This was a gala day in Edinburgh, and the canny Scots were gathering from far and wide to joyously witness a hanging. On the preceding Christmas the trial of Burke had ended and the sentence, which in those days required the duties of hangman and anatomist, met with the immediate approval of the people. The sentence stated that Burke was found guilty of deliberate murder, that he should be returned to prison on diet of bread and water until the 28th of January, then taken to the public square for execution by the common executioner, thereafter the body to be given into the hands of Dr. Alexander Mouro, professor of anatomy, University of Edinburgh, to be publicly anatomized and dissected.

The execution took place on the appointed day, terminating a four-day celebration which the populace had made of the affair. The body was taken to the laboratory of Dr. Mouro, where early on the 29th it was carefully examined by a select group. The public dissection took place in the afternoon and proved to be a decided popular event. There was such a demand for admittance

Dr. N. Boyd Anderson, of Des Moines, now completing a year of post-graduate study in Europe, has furnished the very colorful account of the trials of the anatomist of Scotland a hundred years ago. Other pen pictures by Dr. Anderson will be published in the Journal during the winter months.

—THE EDITOR.

that it was necessary to call in the police to maintain order and keep a moving line of curious groups. It is estimated that better than twenty thousand people viewed the remains.

Burke was only one of a group of people who earned his daily bread as a "resurrectionist". However, at this time he had done away with the resurrection idea and simply murdered an old lady by name of Docherty in order to sell her body to the anatomist, Dr. Robt. Knox. It was due to the lack of legislation granting legal means for the acquisition of bodies for anatomical study that brought about this abhorred trade. It was a trade indeed, for in the same year a dealer in corpses testified before the House of Commons that one gang of the so-called tradesmen had disposed of 312 bodies at five dollars each the past winter. No one could be sure of a permanent resting place. The resurrectionist was abhorred, and the eventual recipient of the goods,

the anatomist, was placed practically in the same category of feelings.

Conditions remained about the same until the staid city of London experienced a similar ordeal to that of Edinburgh. This led to the passage of the Anatomy Act in 1832, and the incentive to grave-robbing was removed. The epitaph over Shakespear's grave now ceased to be needed:

"Good Friend for Jesus Sake forbear,
To dig the dust enclosed here;
Blest be he that spares these stones
And cursed be he that moves my bones."

England was the last of the European countries to adopt measures necessary for anatomical studies. History tells us that following the fall of Alexandria, human dissection was in complete abeyance for many centuries. Frederick II, Emperor, in 1240, issued a decree that a human dissection should be done every fifth year at Salerno. It was not until 1540, during the reign of Henry VIII that England received such a concession, and at this time the United Company of Barbers and Surgeons were given permission to dissect the bodies of four condemned persons yearly. Such material was insufficient. When Rondelet was to dedicate his anatomical theater at Montpellier, so it is related, he found himself without material, and in dire necessity dissected the body of one of his own children. If such be true, it is not strange that questionable means for procuring material came into existence, especially when the teacher and students were enthusiastic. While abhorring the means used, and not in accord with their violation of law, one cannot help but admire the devotion to the cause. It was only during these arduous days or nights when graves were desecrated that reform in anatomical studies began. In reality, out of the grave came the necessary legislation for the development of anatomical knowledge.

MEDICAL HISTORY

(Continued from page 378)

popular manner the outstanding and epochal events in the development of medical science.

In April of 1929 the publishers have released a most pleasing sidelight on medical history entitled "Devils, Drugs, and Doctors"—(Harper & Bros.)—from the pen of that versatile medical authority, Dr. Howard W. Haggard. This pleasing volume presents the quackery, mythology, and mysticism which, in the earlier days of medical development, played a most important role not only in shaping the practice of the healing art, but to a large extent in governing its development.

SYPHILIS

(As a Direct or Indirect Cause of Pauperism)

Syphilis ranks high as a cause of death. To quote Hennessey (New Orleans Medical and Surgical Journal), 55 per cent of young America is infected with a venereal disease before the age of twenty-three. Two hundred and fifty thousand die each year from the effects of venereal disease as compared with one hundred and sixty thousand from tuberculosis. Our records regarding syphilis and other venereal diseases as the cause of death are not complete, since physicians do not write syphilis as the cause of death on death certificates, naming some complication to save the family from possible disgrace, notwithstanding the fact the disease may have been acquired innocently. The only figures we have are taken from estimates and, while staggering, must be below actual facts.

It has been said that syphilis places about one-fifth of the inmates in the institutions for the insane, that venereal diseases place about 30 per cent of the blind patients in the institutions, that 80 per cent of all operations on the female generative organs are due to venereal disease. It has been estimated that one person in every four persons we meet on the street, in the theatre, or with whom we come in daily contact have one or more of the venereal diseases—chancroid, gonorrhea, and syphilis.

Syphilis by its invasion of all tissues and organs of the body, directly or indirectly, causes more feeble-minded persons, paupers, epileptics, morons, criminals, and other delinquents, including insane persons than any other one disease. It is estimated that this class of persons is multiplying six times as rapidly as normal persons and it is these unfortunate people who are being supported in our institutions by taxpayers. Sterilization, which is harmless, is probably the best solution to this problem. If birth control methods and sterilization by licensed physicians were permitted legally and insisted upon much expense and suffering would be prevented.

Iowa boasts of its thorough-bred livestock, yet permits an increase of undesirable citizens. Why permit this increase? Why not prevent it from an economic standpoint, if not from a humane cause? Why the unconcern regarding the problem? Some say those supporting this class are indifferent, others say that our taxpayers are unfamiliar with existing facts. It is possible for any person to become fully informed on these subjects by writing to the statehouse at Des Moines or to the United States Government at

Washington, D. C. for facts. We should realize, as do our city, county, state, and government officials, the true meaning of pauperism and enact laws for the prevention of paupers being born to be added to the expense of taxpayers as well as from a humane standpoint.

—ROBERT EMMET JAMESON, M.D.,
Davenport, Iowa.

THE BANANA AS A FOOD

The science of dietetics has only become a science in the last decade. Prior to that time, the laity had only tradition to guide them in the selection of food, and the physician usually felt that a discussion of dietetics did not, in any sense, lie within his province.

Two factors have in a large measure, at least, been responsible for the development of this branch of therapy. The first is the increased knowledge of the disease diabetes, and the second, the modern trend of fashion towards slimness and the attendant dietary restrictions necessary to attain this end. In the former condition, we have appreciated that, regardless of medicinal preparations or glandular therapy, diabetes is a disease in which the treatment or management is essentially a dietetic one. With the dissemination of knowledge concerning the condition, all physicians have been stimulated to a greater understanding of diets. Physicians, particularly in city practice have, during the past years, had their attention drawn on frequent occasions to the management of diet in various reduction programs—frequently because of various serious illnesses which have resulted from unguided attempts at weight reduction. The modern physician is therefore observing with considerable interest and respect the researches which are being conducted relative to food preparation, food utilization, and food selection.

During the past ten or twelve years, considerable research has been conducted by various investigators having to do with the utilization of ripe bananas as food. This work has been pushed to a considerable extent in the diets of infants and children. Pease and Rose¹ are credited with the first introduction of ripe bananas into the diets of children, although a few attempts have been made prior to their time in utilizing this food. A valuable contribution to our knowledge relative to this food was made in 1927 by Von Meysenbug,² who reported to the Louisiana Pediatric Society the result which he obtained in the utilization of ripe bananas in the dietary of very young children. He pointed out that the

carbohydrate content of a ripe banana represents a very large bulk percentage of the fruit, and that this carbohydrate was present in a form which was readily assimilable by the delicate digestive mechanism of the infant.

Stimulated by these observations, the use of the ripe banana in the diets of children suffering from celiac disease was promptly fostered, replacing to a considerable extent the use of potato and cereal in this condition.

It has now been pointed out by Scriver and Ross³ working in the Montreal Baby and Foundling Hospital, that the banana is rich in vitamins—so rich in fact that it becomes a valuable source of vitamins A, B, C, and D.

We now find included, in the diets of diabetics and invalids, bananas, since it has been demonstrated that this form of carbohydrate is particularly well tolerated in these classes. It is of importance, however, to realize the high carbohydrate content of this fruit in the preparation of reduction diets, since the patient, unless specifically instructed, will include the banana in the catalogue of acceptable fruits, and an otherwise safe program may be defeated by such an error.

In appreciating the value of this fruit from the standpoint of assimilability and utility, let us not lose sight of the fact, however, that our discussion is of the ripe fruit only, since an unripe banana is highly indigestible, and should not be included in any diet. We can consider as acceptable for food use only bananas in which there have appeared brown spots on the skin, and in which there is complete absence of the green color, even at the very tip of the fruit. Bear in mind that until the banana has reached the stage of ripening indicated, the carbohydrate content of the fruit is in the form of indigestible starch, whereas in the fully ripened fruit this carbohydrate is in the form of highly assimilable sugar.

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2. Von Meysenbug, L.: *New Orleans M. & S. J.*, 80: 180-184, (September), 1927.
3. Scriver, J. B. and Ross, S. O.: *Canad. M. A. J.*, 20: 162-165, (February), 1929.

SCIENTIFIC SEX EDUCATION NOT OBSCENE

A bill (H. R. 3832) has been introduced into the National House of Representatives by Mr. La Guardia, of New York City, which would explicitly exempt from the provisions of law barring obscene matter from the mails scientific or medical information relating to sex hygiene or sex education. The bill was referred to the Committee on Post Offices and Post Roads.

AMENDMENT OF STATE CONSTITUTION APPROVED BY AUSTIN FLINT SOCIETY

At the July 16 meeting of the Austin Flint-Cedar Valley Medical Society in Hampton, Dr. John H. Peck, president of the State Society, explained both the proposed councilor districts and the constitutional amendments which are to be voted upon at the 1930 meeting of the House of Delegates. The following extract from the minutes of the district society explains the action taken:

"Following a discussion of the proposed amendments to the Constitution of the Iowa State Medical Society, as submitted by President Peck at the last annual meeting, a motion was made that the Austin Flint-Cedar Valley Medical Society go on record as favoring the proposed amendments, and the redistricting of the state into ten councilor districts. After much commendatory discussion, the motion was unanimously carried."

DR. HOWARD A. LANPHER APPOINTED EPIDEMIOLOGIST

Dr. Howard A. Lanpher began his work as epidemiologist in the State Department of Health, August 1st. Dr. Lanpher took his special public health work at Harvard—has been engaged in such work for fifteen years and for the past five years has been epidemiologist for the Connecticut State Department of Health.

Dr. Lanpher's services will be available without expense to the community in case of an epidemic or a threatened epidemic. Communicable diseases do not respect boundary lines. Any community which harbors an epidemic disease is a menace to other communities. The epidemiologist will accordingly be sent to any community, whenever in the judgment of the Department the public health of the state is endangered by preventable diseases.

CARLSON IS NEW INSPECTOR

Herman B. Carlson of Des Moines has been appointed to the newly-created position of inspector in the State Department of Health. His work will deal with violations of the medical and other practice acts. His work will consist chiefly of securing evidence of violations, that is, evidence of a character and in such form that it may be used by the attorney-general in prosecutions. In some cases he will dissuade violators from continuing with their work of deceiving and defrauding the public. If unsuccessful in such, the evidence will be turned over to the attorney general.

The Department of Health does not possess the legal power of prosecution. It will, however, do

the best it can to secure the evidence on which prosecutions may be based.

Physicians knowing of violations of the medical practice act are urged to write the department regarding such.

MEASLES, DIPHTHERIA, AND SMALLPOX LESS PREVALENT THIS YEAR

According to a statement issued by the Public Health Service regarding the prevalence of communicable diseases in the United States, cerebrospinal meningitis, infantile paralysis, scarlet fever, and typhoid fever were more prevalent for the week ended May 18th of this year than in the corresponding week of 1928. A very marked decrease was shown in measles, diphtheria, and smallpox. Cases were reported from ninety-seven cities with an estimated aggregate population of more than 31,535,000.

THE NEUROLOGICAL INSTITUTE OF NEW YORK

A joint meeting of the trustees and medical board of the Neurological Institute of New York was called recently to discuss raising the final \$150,000 necessary to complete the payments on their new building.

At the opening of the meeting it was announced that an anonymous donor had subscribed the entire \$150,000 in order to "clear the field" for the establishment of a \$2,000,000 research endowment fund.

Immediate approval was given by the trustees to a comprehensive research program which had been nearly a year in preparation, in which some fifty-nine members of the medical staff of the Institute are to participate. The cause and cure of sleeping sickness, epilepsy, and a long list of other mental and nervous diseases are to be investigated. A special investigation of the organic brain changes in early life leading to maladjustment, delinquency and criminal tendencies, was also approved.

The work of all of these research workers, which embraces some sixty-five different lines in the field of neurology and psychiatry, is to be coordinated by a committee consisting of Dr. Frederick Tilney, chairman, Dr. Charles Elsberg and Dr. Walter Timme.

Drs. Tilney, Zabriskie and Timme are to direct the special investigation dealing with problems of maladjustment, delinquency and criminal tendencies.

As part of the research program the board authorized the publication of a scientific journal for workers in the field of neurology and psychiatry, and for scientific workers in allied fields, including members of the legal profession.

A campaign for \$2,000,000 to endow this research program has been launched.

ANNOUNCEMENT OF THE CLINICAL CONGRESS AND THE EIGHTH ANNUAL MEETING OF THE AMERICAN COLLEGE OF PHYSICAL THERAPY

November 4, 5, 6 and 7, 1929, Hotel Sherman, Chicago

Chicago has again been selected as the annual meeting place for the clinical congress of physical therapy of the American College of Physical Therapy.

One of the novel features to be inaugurated this year is the clinical part of the program. One-half of each day will be devoted to a variety of clinics in the sections on Medicine, Surgery and allied specialties, and Eye, Ear, Nose and Throat. As in the past, there will also be a joint meeting of all sections for the presentation of numerous addresses of interest to all physicians irrespective of their specialties. Education in physical therapy will be thoroughly stressed, as the time has come when this phase of the subject must be given due emphasis by an organization such as the American College of Physical Therapy. Scientific papers, clinical addresses, demonstrations of technique, and scientific and technical exhibits, will comprise the remainder of a scientific program which merits the attention of all those interested in the newer fields of medicine. Attendance at the congress is not limited to the fellows of the College, as all duly licensed physicians, their technicians and assistants, properly sponsored, are cordially invited to attend all the sessions.

Program and other information may be obtained by writing to the executive offices, American College of Physical Therapy, suite 716, 30 N. Michigan avenue, Chicago, Illinois.

"FAITH HEALER" RESTRAINED BY COURT

W. F. Hughey who was previously reported in the Journal as having been found guilty of practicing medicine and surgery without a license and fined \$750, has now been restrained by court injunction from further practice.

This injunction served in July however, is a temporary one, and a hearing on the petition of the county attorney and attorney-general for a permanent injunction will be held in September.

\$40,000,000 STATE HOSPITAL BUILDING PROGRAM PROPOSED FOR ILLINOIS

The amount of \$40,000,000 has been appropriated to provide adequate state hospital and training facilities for the insane and feeble-minded in the state of Illinois. This ten year building program contemplates the provision of additional beds for the

mentally diseased, the mentally defective, and for behavior problem cases, which will require the erection of five new institutions in addition to the ten now in existence and overcrowded. So great is the pressure for more beds that many mental patients for whom a cure might be possible are released too soon, their space being needed for other more urgent cases.

347TH MEDICAL REGIMENT AT SNELLING

Col. Aaron C. Conaway, commander of the 347th medical regiment, and a score of officers also members of the Iowa State Medical Society were at Fort Snelling for training the fortnight of July 5th to 19th. In addition to the commander who is Councilor for the fifth district, the following Iowa physicians were included in the call: Major John Oliver Cook, Madrid; Major Evan Stark Evans and Major Ora Frank Parish, Grinnell; Captain Lewis E. Eslick, Rockwell City; Captain Benjamin C. Hamilton, Jefferson; Captain E. E. Harris, Grinnell; Captain James T. McConaughy, Winfield; Captain Roy Moon, Attica; Captain Robert S. Shane, Pilot Mound; Captain Martin O. Stauch, Whiting.

MISSOURI VALLEY MEDICAL SOCIETY AT IOWA CITY IN SEPTEMBER

The Medical Society of the Missouri Valley, in cooperation with the Extension Division of the State University, meets at Iowa City September 26, 27 and 28. Representatives of the various universities of this section will participate in the program, and every effort is being made to make this a very profitable period of graduate instruction. The medical profession is cordially invited. A detailed program will be sent later to each physician of the state.

WORLD CONFERENCE OF WORKERS FOR CRIPPLED CHILDREN

The World Conference of Workers for Crippled Children has just closed a world session at Geneva, Switzerland, at which discussions by internationally known scientists, educators, surgeons and others, promulgated the most recent information available relative to the problem of crippled children.

This conference was held July 28 to August 2, inclusive. The chief purpose of the international conferences is to perfect working plans whereby the activities of the individuals and organizations identified with the problem of aiding crippled children may be coordinated, and to provide for the interchange of information on all phases of the problem.

SOCIETY PROCEEDINGS

Bremer County Annual Picnic

The annual picnic of the Bremer County Medical Society was held in Waverly, Thursday, June 27, at three o'clock, with hand ball and golf the diversions until the six o'clock dinner was served. Out-of-town doctor guests came from Shell Rock, New Hartford, Clarksville, Nashua, Allison, Dumont, Parkersburg, Fredericksburg, New Hampton, Greene and Oelwein.

Buchanan County

June 1st, the Buchanan County Medical Society held a heart and lung clinic at Independence, with Drs. John H. Peck and D. J. Glomset of Des Moines, in charge.

Clinton County Meeting

The Clinton County Medical Society convened at the Wapsipinicon Club, Clinton, Iowa, on the evening of May 7th. The program consisted of the following papers: Exophthalmic Goitre, by Dr. A. C. Davis, Rochester, Minnesota, and Occipito-Posterior Presentation, by Dr. L. M. Randall, Rochester, Minnesota.

Sixty local members and visiting doctors participated in a seven o'clock banquet which was followed by the essayists. The papers were especially thorough and the following discussion general.

Leslie K. Fenlon, President.

Clinton County Picnic

The Clinton County Medical Society enjoyed its first picnic meeting of the year at the Finch cottage on the Mississippi River at Camanche, Iowa, June 21st. Following a sumptuous dinner the evening was spent in a fashion enjoyed by all of the large attendance.

Leslie K. Fenlon, President.

Dickinson-Osceola County Joint Meeting

The Dickinson County Medical Society were the guests of the Osceola County Medical Society at a dinner Thursday evening, June 20, at Sibley. After the dinner the following program was furnished by Dickinson county doctors: Early Stage of Cretinism—Case Report, C. G. Nicholson, M.D., Spirit Lake; Essential (Constitutional) Hypertension, F. J. Smith, M.D., Milford; Wet Dressing Technique, Cassius Coldren, M.D., Milford; Cervical Fractures, C. O. Epley, M.D., Spirit Lake; Case Report, A. H. Schooley, M.D., Terill; paper by P. G. Grimm, M.D., Spirit Lake.

Greene County Chest Clinic and Medical Meeting

The Greene County Medical Society held its regular monthly meeting Friday, July 19, at Jefferson.

Drs. John H. Peck and C. B. Luginbuhl of Des Moines conducted a chest clinic, which was put on under the direction of the society.

Johnson County

The regular Johnson County Medical Society meeting was held Wednesday, July 3, at the American Legion building in Iowa City. The following program was presented: Arsphenamine Poisoning in Infants, Mark L. Floyd, M.D., discussion opened by F. L. Love, M.D.; Caesarean Section—illustrated by moving pictures, E. D. Plass, M.D.

Lyon County

The Lyon County Medical Society and the Iowa Tuberculosis Association held a heart and lung clinic Thursday, July 11, at Rock Rapids. Dr. John H. Peck, Des Moines, and Dr. L. R. Woodward, Mason City, had charge of the clinic.

Madison County Annual Meeting

The Madison County Medical Society met May 27 and elected the following officers for the ensuing year: President, Dr. C. M. Wallace, Winterset; vice-president, Dr. B. D. Little, Winterset; secretary-treasurer, Dr. R. R. Davisson, Winterset; delegate, Dr. W. H. Thompson; and alternate, Dr. John Veltman, Winterset.

R. R. Davisson, M.D., Secretary.

Monona County Host to Woodbury

On July 2, the Monona County Medical Society, with members of the Woodbury County Society as guests, held an outdoor meeting at Blue Lake Resort, Onawa. After the refreshments, the greater part of the time was devoted to the scientific program. Among the speakers was Palmer Findley, M.D., of Omaha, who spoke on Some of the Pathological Conditions Encountered in the Uterus. Alexander Young, M.D., also of Omaha, discussed some problems in Neurosyphilis. Mr. Vernon D. Blank, managing director of the State Society, came from Des Moines and enlightened us on some of the recent legislation affecting the practitioner. Senator Bennett of Mapleton was also an honored guest and pledged his support to the constructive program of the society.

E. J. Liska, Secretary.

Muscatine County

The Muscatine County Medical Society met at the American Legion home, in Muscatine, Monday, June 24. C. W. Rutherford, M.D., Iowa City furnished the scientific program with a paper on Eye Conditions. Honor guests of the evening were Drs. W. H. John-

ston and J. W. Stiers, both of whom are leaving Muscatine soon.

Osceola County

The Osceola County Medical Society held a chest clinic at Sibley, July 12. Dr. John H. Peck, Des Moines and Dr. L. R. Woodward, Mason City, were the officers in charge of the clinic.

Shelby County

Drs. John H. Peck and D. J. Glomset, Des Moines, went to Harlan, where they conducted a chest clinic for the Shelby County Medical Society, June 28.

Washington County

Tuesday, July 2, the members of the Washington County Medical Society convened at the Nurses' Home for their regular monthly meeting. The scientific program consisted of a paper by E. B. Winnett, M.D., of Des Moines, on Diabetes, which was followed by a clinical demonstration on the management of the disease. Attorney A. F. Holm talked on his experiences in Washington, D. C. during the war, giving facts of interest to the medical group.

Austin Flint-Cedar Valley Medical Society

The fortieth anniversary meeting of the Austin Flint-Cedar Valley Medical Society was held in Hampton, July 16, with over sixty physicians from northern Iowa in attendance. In the afternoon the following scientific program was presented: Cholecystogastrostomy—Indications and Limitations, R. H. Crawford, M.D., Algona; President's Address—Why Our Medical Society, C. H. Graening, M.D., Waverly; Early History of Austin Flint-Cedar Valley Medical Association, J. C. Powers, M.D., Hampton.

The afternoon program consisted of Puzzling Eye Signs in General Practice—Case Reports, C. W. Rutherford, M.D., Iowa City; Routine Examination of the Prostate as a Focus of Infection, L. A. West, M.D., Des Moines; Clinical Diagnosis of Heart Disease, E. L. Wurtzer, M.D., Clear Lake; The Present Status of Prevention of Scarlet Fever by Immunization, O. N. Glesne, M.D., Fort Dodge; and Work in the Iowa State Medical Society, John H. Peck, M.D., Des Moines, President of the Iowa State Medical Society.

A musical program followed the six-thirty banquet at the Hotel Coonley, after which Dean Henry S. Houghton of the State University Medical School, spoke on Medical Reminiscences of China.

Next year's meeting will be held in Fort Dodge in October, and the officers of the current year are: Dr. C. M. Wray, Iowa Falls, president; Dr. W. W. Bowen, Fort Dodge, vice-president; Dr. M. N. Guernsey, Waverly, secretary; and Dr. W. E. Long, Mason City, treasurer.

Iowa-Illinois Central District Medical Society

The Iowa-Illinois Central District Medical Association met in annual session Thursday evening, July 11, in Davenport at the Hotel Blackhawk. J. D. Cantwell, M.D., Davenport, delivered a coroner's report which he received of the recent Cleveland Clinic disaster. Officers of the organization are: Dr. J. D. Cantwell, Davenport, president; Dr. B. J. Lachner, Rock Island, vice-president; Dr. H. H. Lamb, Davenport, secretary; and Dr. J. H. Fowler, East Moline, treasurer.

PERSONAL MENTION

Dr. F. H. Lamb, Davenport, has been named a member of the board of censors of the American Medical Association. The appointment was made at the time of the annual convention of the A. M. A. in Portland.

Dr. Homer Russ has returned to his home in Buffalo Center after serving a year's internship in Washington, D. C., following his graduation from the State University of Iowa.

Dr. G. J. Schuell of Lakota has sold his practice to Dr. R. R. Williams, formerly of Fort Dodge, and is leaving with Mrs. Schuell for California.

Dr. O. J. Fay of Des Moines made an airplane trip to Los Angeles, leaving Des Moines, Friday, June 28, and arriving in Los Angeles, Saturday, June 29. From there he went to Portland where he attended the annual session of the American Medical Association.

Dr. Marquerite Horning Taylor, formerly of Iowa City, has completed her internship at the State University Hospital, and has joined her husband, Dr. Ray Taylor, in Chicago.

Dr. and Mrs. H. V. Scarborough of Oakdale have left for a two weeks' automobile vacation trip, driving directly to Lake Tomahawk, Wisconsin.

Dr. Emil C. Junger of Soldier left during the week of July 4th for Portland, Oregon, where he attended the A. M. A. Convention.

Dr. Joseph H. Schrup of Dubuque left Wednesday, June 3, for Portland, Oregon, where he attended the annual convention of the American Medical Association. After the session he joined other members of the Iowa State Medical Society in a tour of Alaska and northern Canada.

Dr. R. A. Becker of Atlantic, has returned with his family from a two weeks' motor trip to Kansas and Colorado.

Dr. Roy Wanamaker of Hamburg, who for the past year has been engaged in practice with his father, Dr. A. E. Wanamaker, is leaving for Omaha, where he will attend a post-graduate course conducted by Dr. C. A. Roeder of the Mayo Clinic.

Dr. W. A. Rohlf of Waverly, with his wife and sister, left June 30 for a six weeks' vacation trip. After spending a week in Yellowstone National Park, they went to Portland, where Dr. Rohlf attended the meeting of the American Medical Association.

ciation. From Portland they proceeded to Seattle, and from there on July 14, took a boat for Alaska. They expect to be home by the middle of August.

Dr. C. L. Housel has sold his practice in Tabor to Dr. G. L. Roark, of Omaha, and is moving his family and practice to Wiley, Colorado.

Dr. and Mrs. F. H. Conner left Nevada Thursday, July 4, for Portland, Oregon, where Dr. Conner attended the annual session of the American Medical Association. After the convention, they will visit in Los Angeles and northern California.

Dr. J. H. Bruce of Dickens has sold his practice to Dr. C. T. Kendall, formerly of Peterson, and plans to leave soon for Chicago and New York where he will take post-graduate courses. Upon completing this work, Dr. Bruce expects to practice medicine in Fort Dodge.

Dr. D. J. McCarthy is leaving Davenport to take up his home and practice in Indianapolis, Indiana.

Dr. J. N. Lande of Sioux City has left his home for a five months' trip in European countries. His itinerary includes Vienna, where he will take a post-graduate course in the study of pathology and nervous diseases of children; Berlin, where he will study with Dr. Finkelstein; Budapest and Prague, the children's clinics; and Paris, where he will work for several weeks in the St. Michael's Childrens' Hospital.

Dr. Helen Johnston of Des Moines was re-elected president of the National Altrusa Clubs at the club's recent session held in Des Moines.

OBITUARIES

James Winfield Cokenower

James Winfield Cokenower was born August 13, 1853 in Shelbyville, Shelby county, Illinois. He died April 16, 1929, at his residence, 1002 Forest avenue, Des Moines, Iowa, of acute pneumonia. He was graduated from Westfield College with the B.S. degree and held a life diploma for teaching in the state of Illinois. He was a teacher in and superintendent of the city public schools of Sullivan, Illinois. He graduated from the Physicians and Surgeons College, Keokuk, June 14, 1877, and from the Louisville University of Medicine, June 10, 1880, locating in Des Moines, August 13, 1881. In 1885 he became a member of the staff of Cottage Hospital continuing in that capacity until 1893 when Mercy Hospital was founded by the Sisters of Mercy. He served the latter institution as vice-president of the advisory board, and secretary until his death.

He was the first orthopedic surgeon west of Chicago and held the professorship of the Orthopedic Surgery Medical Department of Drake University until the merging of that department with the University of Iowa. Besides teaching in the Nurses Training School, he taught physiology at Des Moines College from 1890 to 1894. Every Thursday he gave free orthopedic clinics at Mercy Hospital. Dr. Cokenower was one of the founders



JAMES WINFIELD COKENOWER

of the Iowa Children's Home, serving as chairman of the executive board and president of the Iowa Children's Home from 1895 to 1913, being an active member of the board at the time of his death. He was a member of the staff of the Methodist, Lutheran, and Broadlawns Hospitals.

Dr. Cokenower, during his period of practice, attended clinics and did post-graduate work in Chicago, and New York; surgical clinics, St. Thomas and Guys Hospital, London; orthopedic clinics, Berlin, Germany; and Lorenz Orthopedic Clinics, Vienna, Austria.

He was a medical writer of ability and an authority on orthopedics. In 1887 he was president of Polk County Medical Society, of which body he was a life member at the time of his death. He served the Iowa State Medical Society as assistant secretary in 1889 and 1891. From 1894 to 1901 he held the office of secretary. At one time he was chairman of the committee on medical legislation and for several years served faithfully on the board of councilors and the board of trustees. In addition to the offices mentioned above, he held a Fellowship in the American College of Physicians. Dr. Cokenower's resting place is Angeles Abbey, Long Beach, California.

Maple, William W., Des Moines, died at the age of sixty-five as a result of high blood-pressure; graduated in 1892 from the Eclectic Medical College, Cincinnati. At the time of his death he was a member of the Polk County Medical Society.

MARRIAGES

Saturday, June 15, Miss Ilah Dahl and Dr. R. T. Rohwer were united in marriage at the home of the bride's parents in Madelia, Minnesota. Dr. Rohwer lives at Schleswig, Iowa, and is in practice with Dr. H. D. Jones.

Dr. B. B. Parker of Allerton was married to Miss Pansy Hollingsworth of Covington, Oklahoma, Sunday, June 30, at the home of the bride's aunt in Centerville, Iowa. Immediately after the ceremony the couple left for Portland, Oregon, where Dr. Parker attended the American Medical Association Convention.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Associate Medical Officer Assistant Medical Officer

Applications for associate and assistant medical officer must be on file with the Civil Service Commission at Washington, D. C., not later than December 30.

The examinations are to fill vacancies in hospitals of the Public Health Service, the Indian Service, and in other establishments of the Federal classified service throughout the United States.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

On account of the needs of the service, papers will be rated as received and certification made as the needs of the service require.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

PHYSIOTHERAPY AIDE

Applications for physiotherapy aide must be on file with the United States Civil Service Commission at Washington, D. C., not later than September 10.

The examination is to fill vacancies in the hospitals of the Veterans' Bureau and the Public Health Service throughout the country.

The duties consist of administering physiotherapy in its several branches—massage, electrotherapy, actinotherapy, hydrotherapy, mechanotherapy, thermotherapy; active, passive, resistive, and assistive exercises and remedial gymnastics; keeping daily record of the work and progress of each patient coming under direction and treatment; and making the required reports of the activities of the reconstruction work in physiotherapy.

Competitors will be rated on practical questions, weighted at 50 per cent; and education, training, and experience, weighted at 50 per cent.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

SHOCK PROOF X-RAY APPARATUS NOW AVAILABLE

Simplification in design and improved controls have enabled the roentgenologist to constantly improve the quality of his work and obtain uniformly satisfactory results through the standardized technic which these improvements have made possible.

Shortly after the CDX was placed on the market the Victor engineering and designing organization under the leadership of Mr. J. B. Wantz started work on the development of a shock proof type of x-ray unit for the use of the roentgenologists in the medical x-ray field.

The development of the shock proof x-ray unit is considered as probably the most important contribution to x-ray science since the advent of the Coolidge Tube. The knowledge and experience gained during these many years are reflected in the design of this new apparatus. Nothing has been left undone to bring to a realization the finest piece of workmanship, in justice to the important role to which it is believed this apparatus will be assigned in future radiology. It is dedicated to that body of specialists the roentgenologists, who have so immeasurably contributed to the advancement of medical science.

MERGER OF X-RAY MANUFACTURERS

The merger of the Acme-International X-ray Co. of Chicago and the Engeln Electric Co. of Cleveland, to be known as the American X-ray Corporation, has just been announced, effective July 1, 1929. Both of these companies have for many years played a conspicuous role in the development of x-ray and physical therapy apparatus, and have won a vast number of friends in the medical profession throughout the country.

The extensive lines of both companies will be retained essentially unchanged, and a wide distributing organization, covering the United States and many foreign countries, will be maintained to service the products and give the closest personal attention to the requirements of the medical profession.

This concentration, bringing together greatly increased facilities for production, research, experimental and educational activities, should prove of striking benefit to the profession, which is now offered an exceptionally wide line from which to choose suitable equipment, and is assured of excellent service facilities in any part of the country.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- YOUTHFUL OLD AGE**—By Walter M. Gallichan—The Mac Millan Co., New York—Price \$2.50.
- TEXT BOOK OF CLINICAL NEUROLOGY**—By M. Neustaedter, M.D.—F. A. Davis Co., Philadelphia.
- PHYSIOLOGY OF BONE**—R. Leriche and A. Policard—Translated by Sherwood Moore, M.D., and J. Albert Key, M.D.—C. V. Mosby Co., St. Louis—Price \$5.00.
- EDEMA AND ITS TREATMENT**—By Herman Elwyn, M.D.—The MacMillan Co., New York, 1929—Price, \$2.50.
- DISEASES OF THE THYROID GLAND**—By Arthur E. Herxleir, M.D.—Second Edition, Entirely Rewritten—The C. V. Mosby Co., St. Louis, 1929—Price \$7.50.
- DISEASES AND DEFORMITIES OF THE SPINE AND THORAX**—By Arthur Steindler, M.D., F.A.C.S.—With 76 Plates—The C. V. Mosby Co., St. Louis, 1929—Price, \$12.50.
- MEDICAL CLINICS OF NORTH AMERICA**—Vol. 12, No. 2—Nebraska University Number, September, 1928—Per Clinic Year, July, 1928 to May, 1929—Octavo of 254 Pages with 40 Illustrations—Paper, \$12.00; Cloth, \$16.00 Net—Philadelphia and London—W. B. Saunders Company, 1928.
- BIRTH CONTROL OR THE LIMITATION OF OFFSPRING BY PREVENCEPTION**—By William J. Robinson, M.D.—Forty-sixth Edition, Revised and Enlarged—Eugenics Publishing Co., New York, 1929.
- INTERNATIONAL CLINICS**—Edited by Henry W. Cattell, M.D.—Vol. II, 39th series, 1929—J. B. Lippincott Co., Philadelphia.
- THE NEUROSES**—By Israel S. Wechsler, M.D.—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$4.00 Net.
- THE NOSE, THROAT AND EAR AND THEIR DISEASES**—Edited by Chevalier Jackson, M.D. and George M. Coates, M.D.—Assisted by Chevalier L. Jackson, M.D.—Octavo Volume of 1177 Pages with 657 Illustrations and 27 Inserts in Colors—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$13.00 Net.
- CLINICAL LABORATORY METHODS**—By Russell Landram Haden, M.D.—Third Edition—C. V. Mosby Co., St. Louis, 1929—Price \$5.00.
- THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928**—Volume XX—Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M.D. and Mildred A. Felker, B.S.—Octavo Volume of 1197 Pages with 288 Illustrations—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$13.00 Net.
- THE CONQUEST OF CANCER BY RADIUM AND OTHER METHODS**—By Daniel Thomas Quigley, M.D.—F. A. Davis Co., Philadelphia, 1929—Price, \$6.00.
- CLINICAL ASPECTS OF VENOUS PRESSURE**—By J. A. E. Eyster, M.D.—The MacMillan Company—New York, 1929—Price \$2.50.
- THE TREATMENT OF FRACTURES**—By Lorenz Boehler—Published by Wilhelm Maudrich, Vienna—Cloth, Price \$5.00.
- THE HISTORY OF NURSING**—By James J. Walsh, M.D., Ph.D.—P. J. Kenedy & Sons, New York—Cloth, Price \$2.00.
- THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928**, Volume 20—Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M.D., and Mildred A. Felker, B.S.—Philadelphia: W. B. Saunders Company, 1929—Cloth, Price \$13.00 Net.
- THE MEDICAL CLINICS OF NORTH AMERICA**—Volume 13, No. 1. (Boston Number—July, 1929)—Philadelphia: W. B. Saunders Company—Price, Paper, \$12.00; Cloth, \$16.00 Net.
- CLINICAL ASPECTS OF VENOUS PRESSURE**—By J. A. E. Eyster, B.Sc., M.D.—The MacMillan Company, New York—Price \$2.50.
- PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY**—By Charles B. Slade, M.D.—Fourth Edition—Philadelphia: W. B. Saunders Company, 1929—Price, Cloth, \$2.00 Net.
- THE CHALLENGE OF CHRONIC DISEASES**—By Ernst P. Boas, M.D. and Nicholas Michelson, M.D.—The MacMillan Company, New York—Price \$2.50.
- AMERICAN ILLUSTRATED MEDICAL DICTIONARY**—By W. A. Newman Dorland, M.D.—Fifteenth Edition—Philadelphia: W. B. Saunders Company, 1929—Price, Flexible Binding, Plain, \$7.00 Net; Thumb Index, \$7.50 Net.

BOOK REVIEWS

THE SURGICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 9, Number 2. (Chicago Number—April, 1929); 243 Pages With 70 Illustrations. Per Clinic Year (February, 1929 to December, 1929). Paper \$12.00; Cloth, \$16.00. W. B. Saunders Company, Philadelphia.

This number contains a wide variety of clinical presentations. Dr. Arthur Dean Bevan presents quite an extensive article on "The Acute Abdomen". Other phases of abdominal surgery are presented by Doctors Gatewood, David C. Straus, I. Harrison

Tumpeer. Dr. Albert H. Montgomery on "Pseudo-Appendicitis in Children". Dr. Golder L. McWhorter, "Amebic Abscess of the Liver"; Dr. Bernard Parker Mullen on "Subphrenic Abscess", and Dr. Edwin M. Miller.

The genito-urinary department is represented by Drs. Daniel N. Eisendrath, Robert H. Herbst, Frederick Christopher, and C. B. Huggins.

Dr. Kellog Speed presents a good article, "Ununiting Fracture of the Neck and the Femur".

Dr. Frederick B. Moorehead on "Plastic Surgery of the Head"; "Loose Bodies in the Knee Joint" by Dr. George M. Curtis; "Wounds of Superior Longitudinal Sinus" by Dr. Percival Bailey and Dr. Ed-

mund Andrews on "Multiple Carcinomata in Aberrant Breast Tissue".

The most extensive presentation is that of chest surgery, tuberculosis, empyema, lung abscess. Three separate clinics, Dr. Carl A. Hedblom, Dr. Francis Howe Straus and Dr. Ralph Boerne Bettman.

This volume maintains the usual high standard of the Surgical Clinics. F. W. F.

CLINICAL ELECTROCARDIOGRAMS—THEIR INTERPRETATION AND SIGNIFICANCE

A Mayo Clinic Monograph by Fredrick A. Willius, M.D., Section on Cardiology, Mayo Clinic, Rochester, Minnesota; 219 Pages, 368 Illustrations. W. B. Saunders Company, Philadelphia, 1929. Price \$8.00.

An increasing number of valuable books on electrocardiography indicate the strides this branch of medical science is taking. This volume differs from most others in that it is devoted to the actual interpretation of tracings.

The illustrations are especially clear and the descriptions of them are concise. They give the type of heart disease present in the patient from whom the records were obtained. The numerous illustrations of the electrocardiographic curves resulting from patients with coronary artery disease are of special worth. Those who desire references to the various subjects will find extensive bibliographies.

This work will be found valuable for reference by those who are beginning the study of electrocardiography as well as by those who are experienced in this field. M. M. M.

THE MEDICAL CLINICS OF NORTH AMERICA

Issued Serially, One Number Every Other Month.) Volume 12, Number 3. (New York Number, November, 1928.) Octavo of 334 Pages with 64 Illustrations. Per Clinic Year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London: W. B. Saunders Company, 1928.

Among the outstanding contributions to this New York number of the Clinics are those by Nellis B. Foster on "The Differentiation and Treatment of the Commoner Forms of Nephritis" and Herman Elwyn on "The Principles of Treatment in Acute Nephritis". In the clinic by Foster the general fundamental principles of treatment are considered, while in that of Elwyn, every detail of treatment is considered as well as the management of the commoner complications. Some diseases of children are helpfully presented by Drs. Schick (tuberculosis), Stimson (diet and feeding), Hubner (prematurity) and Ratner (allergy). The outstanding clinic of surgical interest is that by Arthur Holland on "The Gall-bladder Function as Affected by the Operation of Gastro-enterostomy".

WOMAN: HER SEX AND LOVE LIFE

By William J. Robinson, M.D., Chief of the Department of Genito-Urinary Diseases and Dermatology, Bronx Hospital Dispensary, Editor of the American Journal of Urology and Sexology, Etc. Illustrated. Twenty-first Edition. Eugenics Publishing Co., New York, 1929. Price \$3.00.

The present volume is a twenty-first edition—a fact which bespeaks the popularity of this book. The volume differs from the usual one on female sexology in the fact that it has carried the discussion beyond the discussion of sex hygiene into the much neglected field of sex psychology and sex ethics. The volume contains the usual chapters dealing with the anatomy and physiology of the female sex organs, puberty, normal and abnormal menstruation, pregnancy, the development of the foetus, and the venereal diseases. These chapters are well written but in no other way unusual. The chapter on "Who May and Who May Not Marry" is one of the most complete compilations of its sort with which I am familiar. The chapters dealing with such vitally important subjects as "Difference Between Man's and Woman's Sex and Love Life", "What is Love" and "Jealousy and How to Combat it", are unique in a book of this sort and are the ones which, in the reviewer's opinion, elevate this volume into a class by itself. In these chapters will be found a straightforward discussion of those emotions so vital to conjugal happiness—emotions so poorly understood by both the laity and the average physician. The book may be safely recommended by the physician to those of his patients needing sex information.

MENTAL HYGIENE

By Frankwood E. Williams, M.D., No. 16 of Reading with a Purpose Series. Chicago: American Library Association, 1929. Price, Cloth, 50c; Paper, 35c.

This small booklet of forty-one pages has been prepared by an authority on the subject of mental hygiene. This, as well as other pamphlets in this series, has been prepared by the American Library Association with the thought in mind that the pamphlet would stimulate an interest in the subject reviewed, and that this interest could be developed by further reading as suggested in the closing paragraphs of the pamphlet.

It seems unfortunate that the author of this pamphlet should stress so strongly the work of the National Committee for Mental Hygiene, of which he is an officer, since one cannot help feeling upon reading the pamphlet that there is considerable propaganda for this committee throughout the book. However, this survey of the field of mental hygiene is sufficiently comprehensive, the language used is sufficiently non-technical, and the word pictures are sufficiently vivid to interest the lay-reader in this subject.

THE HUMAN BODY AND ITS CARE

By Morris Fishbein, M.D., No. 47 of Reading with a Purpose Series. Chicago: American Library Association, 1929. Price, Cloth, 50c; Paper, 35c.

This small booklet, Number 47 in the Reading with a Purpose course prepared by the American Library Association, states in popular language the fundamental rules governing the establishment and maintenance of health. Dr. Fishbein has described in concise, yet colorful language the problems underlying personal hygiene, the prevention of disease, and the regulation of diet. He has further pointed out some of the pitfalls attendant upon the use of many so-called reduction methods.

In the concluding paragraph of the booklet, he has called attention to five volumes, the reading of which will exemplify and extend the knowledge suggested by the author in this pamphlet. The booklet is a valuable one, and one which any physician can recommend to his patients without apology, since considerable benefit is sure to result from its perusal.

THE TONSILS AND ADENOIDS AND THEIR DISEASES: INCLUDING THE PART THEY PLAY IN SEPTIC DISEASES

By Irwin Moore, M.D., C.M. (Edin.), Late Honorary Surgeon to the London Throat Hospital, Etc. The C. V. Mosby Co., St. Louis, 1928. Price \$6.50.

This book in the beginning discusses the lymphatic structure of the throat (Waldeyer's Ring), followed by the clinical anatomy of the faucial tonsil. The function of the tonsil and adenoid tissue is given, with presentation of theories and opinions regarding tonsil function. The pathology, bacteriology and symptomatology is thoroughly reviewed, with nothing particularly new brought out. The tonsil, as a focus of infection and associated diseases that may occur, is thoroughly outlined. The various types of inflammation and tumor formation are taken up in chapter three. Chapters four and five give indications for removing tonsils and the various techniques, with discussion of the complications which sometimes follow. Chapter six discusses in detail hemorrhage from tonsillectomy, and various methods employed for its control. Chapter seven relates the treatment of enlarged or diseased tonsils in which surgical procedures are contraindicated. The one most worthy method mentioned is the diathermic puncture. Chapters eight and nine tell of the naso-pharyngeal tonsils or adenoids and the lingual tonsil. Mention is made of the occasional aberrant thyroid or lingual goitre which may be overlooked. This book is the best and most complete discussion of tonsils I have ever seen. Each chapter is accompanied by a very complete list of references.

H. J. McC.

SURGICAL PATHOLOGY

By William Boyd, M.D., Professor of Pathology, University of Manitoba, Winnipeg, Canada. Second Edition, Revised and Reset. Octavo of 933 Pages, with 474 Illustrations and 15 Colored Plates. Philadelphia and London: W. B. Saunders Company, March, 1929. Cloth, \$11.00 Net.

Time was when it was thought that technic and manual dexterity were the crowning glories of the surgeon. Today, however, it is conceded that these qualities are secondary to surgical judgment. Surgical judgment is only obtained by the surgeon who possesses a thorough knowledge of pathology based primarily, as it must, be upon autopsy or "dead" pathology, extended and augmented by a considerable experience and close observance of surgical or "living" pathology. "A first hand knowledge of pathology is the only safe guide for the hands of the surgeon, however skilled those hands may be."

Dr. Boyd, in preparing this monumental work, has attempted to present the subject so that it would serve as a "hand-book to the surgeon and the internist and a guide to the beginner in the field of medicine". He has so ably accomplished his purpose that this volume is outstanding and unique in its field. He has covered every phase of general and special pathology ordinarily included in a work on pathology, and has kept ever prominent in his presentation the viewpoint of the operating surgeon. This volume is to the operating surgeon what Ewing's "Neoplastic Diseases" is to the pathologist. It should be imperative that every operating surgeon thoroughly familiarize himself with the contents of this book, and certainly the internist will attain a much greater skill in the interpretation of physical signs from a close study of this masterly treatise. The publishers are to be commended on the excellence of workmanship, both in the execution of the numerous illustrations, but also in the type and compositional form employed.

DISEASES OF THE NOSE, THROAT AND EAR

By E. B. Gleason, M.D., LL.D., Professor of Otology, Graduate School of the University of Pennsylvania. Sixth Edition, Thoroughly Revised; 12 Mo. of 617 Pages with 262 Illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$4.50 Net.

It will be noted that this number is now in its sixth edition—a fact which in itself bespeaks the popularity which this treatise has attained. This is more readily understood when we consider the fact that each edition has been reprinted one or more times. The author has attempted with considerable success to present a manual or text-book covering the essential information relative to diseases affecting particularly the nose, throat, and ear. No attempt has been made to develop the book to the

scope of an encyclopedia—in fact, every effort has been made to limit the volume without limiting its scope of usefulness.

The methods of examination, treatment, and surgical technique are all ones which have been found useful in the hands of the author, and are almost without exception the ones commonly accepted by specialists in this line of work. Many sections of the volume have been subjected to extensive revision and rewriting—procedures made necessary because of recent advances in the particular subject treated.

The closing chapter of the book is devoted to formulas which will be found most useful, particularly to the practitioner having occasion to treat these conditions more rarely. The volume is well illustrated, and well indexed—features which render it especially useful for quick reference.

THE PHYSIOLOGY OF LOVE

By G. M. Katsainos, Ph.D., M.D., Privately
Printed at Boston, Massachusetts. Price
\$4.00. (Address Author—176 Huntington
Ave., Boston, Massachusetts.)

This volume is one of the best written, most fascinating, entirely original, and withal the most speculative volume, which has come to our attention in a very long time. The author, while born abroad and educated in another language, has nevertheless mastered English and exhibited rare skill in its use in this treatise. The title of the book very inadequately portrays its contents. It contains much more of old-world philosophy than of physiology, and more of sexuality than of platonic love. The author does not hesitate to begin his discussion with a speculative account of the genesis of the earth and all of the creatures thereon, extending this speculation by easy and apparently logical steps to the beginning of all human emotions and special senses. His concepts, while established by deductive reasoning, are frequently confirmed by familiar and even homely illustrations or analogies. Imagine, if you can, an author in his introduction attempting an analysis of the origin, source, and essence of life; an exposition of the Creator, of dreams, of the soul; a biological introduction into the essentials of evolution and inheritance; and a masterful discussion of the fundamentals of physical and biological science. This author has not only attempted to cover this field, but has accomplished this objective in a delightfully original fashion. The remaining fifteen chapters of the volume deal with the emotions, chiefly those concerned in sexuality. He has clearly analyzed those emotions or instincts commonly manifesting themselves in a normal sex life, and in parallel chapters revealed the disturbed emotions which exhibit themselves in perversions. His analysis of the female emotions and sex instinct, while in no sense flattering and entirely destructive to exaltation with which the occidental is apt to

reveal his lady, is nevertheless highly sensible in viewpoint and tenable when subjected to painstaking scrutiny. To those of our profession who are pleased to think as they read, the volume is recommended.

R. R. S.

THE SURGICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 9, Number 3. (New York Number—June, 1929); 299 Pages with 125 Illustrations. Per Clinic Year (February, 1929, to December, 1929). Paper, \$12.00; Cloth, \$16.00. Philadelphia and London: W. B. Saunders & Co.

This volume will be of interest both to the surgeon and the general practitioner. The clinics presented by Dr. Charles H. Chetwood, entitled "Importance of Modern Technic in Correct Renal Diagnosis", Dr. Guilford S. Dudley "Abdominal Surgery", and Dr. Frank C. Yeomans "Sigmoidoscopy vs. X-ray in the Diagnosis of Terminal Bowel Pathology"—comprise a very interesting and helpful group of cases from the standpoint of diagnosis. From the standpoint of operative procedure, the clinics of Dr. Howard Lilienthal on "Thoracic Surgery", Dr. Fred H. Albee on the "Use of the Bone-graft Peg in Ununited Fracture of the Neck of the Femur", and that of Dr. Charles E. Farr on "Removal of Stones from the Common Duct"—are perhaps the most outstanding in this number. The rarer conditions of "Diverticulum of the Esophagus", "Riebel's Struma", and "Sarcoma of the Humerus", by Dr. Charles Gordon Heyd, will prove of general interest. Dr. Walton Martin presents a rare case of "Pseudohermaphroditismus Masculinus". Several other articles of considerable interest are included in this number.

F. W. F.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Third Series—Volume the Fiftieth—Philadelphia, Printed for the College, 1928.
Edited by Walter G. Elmer, M.D.

This volume presenting the transactions of the Philadelphia College of Physicians includes all papers read before this body during the calendar year of 1928. Exclusive of the address of the president, twenty complete papers are reported dealing with the general subject of medicine.

There are forty-seven articles presented from the section of ophthalmology, and twenty-one from the section of Otology and Laryngology. With such a wealth of medical literature contained in one volume, it is difficult to suggest any outstanding contributions. However, the student of medical literature will find many authoritative and well-written articles included in the number presented.

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[A similar advertisement appeared in the Journal of Biological Chemistry in January, 1928]



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The JOURNAL

of the

Iowa State Medical Society

VOL. XIX

DES MOINES, IOWA, SEPTEMBER, 1929

No. 9

MEDICAL ECONOMICS*

CHANNING G. SMITH, M.D., Granger

During the national meeting of the state secretaries a year ago last fall, it was advised that each annual program include at least one paper on medical economics. Several state societies have already presented this subject, but to the best of my knowledge this is the first time that our Society has ever turned from purely academic considerations.

Our attention to the business side of our profession is somewhat akin to an answer that I once received. Our small sons were playing in the back yard and overhearing them swearing I went out and gave them a long lecture on the evils of profanity and wound up my discourse by telling them that if there was any swearing to be done about the place, I was the one to do it.

"All right", Bob pipes up, "Wish that you would start in right away Dad, for I am a hell of a long ways behind". And quite possibly our State Society in this connection is in the same condition. The physician, by himself, cannot make a business of his profession. The organizations of medicine must promote the financial side for him. It may interest you to note that there are some medical societies whose constitution and by-laws expressly forbid the discussion of any but a strictly scientific paper, so imbued have our forefathers been in keeping pure and undefiled the art and science of medicine. However in this connection I want to quote to you from Dr. Pusey, a former president of the American Medical Association.

"Medicine in assuming any attitude of indifference, and it is allowing itself to be put in that position, is fooling itself into thinking that physicians are not like other men. It is medicine's glory that altruism is ingrained in its traditions; that it puts self secondary to the public good;

and that constantly and more effectively than any other group it is trying to eradicate that by which it lives. But these things being true and they are true, we have a right and we must from our own usefulness to society consider the business by which we live."

Whether or not we believe that there is anything amiss with this profession of ours, we must all recognize that an adjustment is taking place in the medical care, not alone of the indigent, but of our entire clientele. This change is not confined to Iowa or our whole country but is marked over the civilized world. The British medical journals are filled with articles bemoaning the present condition of their profession. France is still concerned over fee splitting and other evils. Germany we are told has serious troubles of her own. Many factors are contributing to this situation, the chief of which are the recent great advances in scientific medicine, hospitalization, specialists, group practice, clinics, cults, and the increasing cost of medical and nursing care.

Scientific medicine has almost overshadowed the mysticism of the decades just past, although the latter was a wonderful, if misplaced aid to many a physician, and this loss of our supposedly supernatural powers is the main cause of the defection of many of our patients.

You will remember that until very recently all the ills that befell the medical profession were ascribed to the ignorance and slothfulness of the general practitioner. Now the tide has turned and these same old doctors are becoming almost legendary characters, endowed with all the virtues and bereft of all their sins. Many writers are decrying the loss of the art of medicine. Now art, as applied to our profession is difficult to define. It may be described as such management of a sick person that the ill one remains contented with his surroundings and confident in his professional treatment. The art of these ancient brothers consisted merely of common sense and kindness. Personal friendship was the key note of their importance and power. Our

*Presented before the Seventy-Eighth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 8, 9, 10, 1929.

present day scientific medicine is prone to be too impersonal. Medicine as time goes on will become more scientific and to be completely successful personal friendship to the patient must return.

Hospital beds are increasing at the rate of 25,000 per year. Evidently there must be a demand or these would not be furnished. A certain question arises about overhospitalization. It would seem to me that if a patient can afford it; desires to go; and can be taken care of there by his own physician, certainly he should be taken to a hospital. However, if a patient cannot afford hospitalization, he should not be sent there merely for the convenience of the doctor. It is estimated that 90 per cent of all sicknesses can be diagnosed and treated by the ordinary physician in the patient's own home. If this be true, the physicians are to blame for not protecting their birthright. By sending away their cases they lose many legitimate fees and raise in the community a question of their ability and prestige. Particularly is this true of uncomplicated confinement cases. The maternal death rate in hospitals is a disgrace and despite a lengthy campaign for reduction still remains alarmingly high, comparing very unfavorably with the same treated at home.

There should be a closer relationship between the doctor and the specialist in the treatment of referred patients. The entire removal of the physician from the case is a fundamental error and must be changed or else the present teaching of medicine so adjusted so as to turn out specialists only. The physician should know the family's financial status, should know the patient's idiosyncrasies, should understand the art of keeping the patient contented while undergoing treatment and should so understand this treatment that if it be necessary he can intelligently continue it after the patient is returned to his individual care.

Ordinarily also the patient should remain under the general supervision and care of the practitioner as the specialist may be in a position to look after only a part of the patient's needs and then often the least important part. There are but few statistics available but these estimate that the specialist does half as much work and receives twice as much money therefor as the general practitioner. Why then should we expect a graduate to go into the grind of general practice when less work, better living conditions, and more money will accrue to him by merely perfecting himself along some certain line. In my opinion the specialist even with his exalted knowledge of one phase of medicine is and should

be regarded as no more than the equal of the general practitioner.

If we can correct the existence of inequitable charges by the profession and correct the tendency to lower the importance of the doctor; if we can see that the physician is paid in proportion to the role he plays in diagnosing disease; if we can see that he has the proper appreciation for his responsibility in advising surgery and other specialties; and if we can see that he has the proper appreciation for his responsibility and anxiety with post-operative care, the problem of specialism and fee splitting will be solved.

There is no question of the abuse of the free clinics. We have no factual data but it is estimated that the profession furnishes through them many million dollars worth of work free each year.

Dr. Harris writes, "There is a great difference between the charity from one person to another, based on sympathy, pity or simply human kindness, and the charity of a public institution. The former is an act of human kindness, and the latter is a business proposition". In this changing order of events, the organizations fostering free clinics, not used for teaching purposes, should realize that this task is too great to be borne by the medical profession alone, and that it is a burden for the whole people. There is no known reason why we should be expected to contribute our money, time and skill to any public organization, no matter how philanthropic or charitable its purpose, and not be included in the expense budget, just the same as the medical supply house, the landlord, or the janitor.

We demand better roads, better schools, demand that the government take an increasing interest into every part of our business life and then we complain of taxes. Likewise we demand better hospitals, better nursing and medical care, specialists, and all that goes with them and then complain of the cost of medical and nursing care. Personally I believe that the nurses are under rather than over paid. In looking up this subject it was surprising to find the number of articles written and astounding to note how little there is of authenticity that we can rely upon.

The American Medical Association is now engaged in determining something of the average income, expenses and living conditions of the profession. There is a general belief among the laity that there is something radically wrong with the present day practice of medicine, and a great number of non-medical men are seeking a solution of our difficulties; for the public as well as the profession is restless under the present

regime. Much of this agitation hinges about the cost of medical care and a voluntary committee, representing different social angles has entered into a five year program, hoping to reach some definite conclusions concerning the troubles between the physician and his patients.

I am not, however, at all in accord with those who would tear down our code of ethics and old ideals and proceed merely as a business institution. Behind us we have centuries of honest, honorable, humanitarian efforts, entailing greater sacrifices than we are called upon to make and if these forefathers could carry on in spite of imperfect knowledge, entire lack of exactitude in therapy, poorer equipment and no one with special training to help them in time of need, surely there is nothing so essentially wrong with our organization or with the civilization of the day that we cannot within ourselves correct the defects and proceed as always, proud of the position of the profession. From our profession we should expect merely a comfortable home, decent surroundings, a better education for our children than we received and enough laid by to support us in our declining unproductive years. Really what more could one ask? In Iowa to some extent all these problems fall within the province of the Council and we are not unmindful of them.

During an all day session last fall we passed a resolution urging all medical men to take an increasing interest in every public health movement in order that these movements should have intelligent medical supervision. This resolution has had a rather wide circulation among non-official health agencies, and they have quickly responded, not only asking but pleading for help in the direction of their activities, and I want to impress upon you the absolute necessity of realizing and understanding the magnitude and power of non-official health agencies.

We as physicians naturally assume that anything that has whatsoever to do with health should immediately be referred to us. The public does not now assume anything of the kind. Unversed in the trials and tribulations of medical procedure, the people merely see the goal to be obtained, a straightened limb, a corrected posture, a saved life, giving little thought to the causative agents lying behind the original troubles.

In order that the action of the Council might not be taken as merely an empty gesture, we appointed a committee to confer, cooperate, and help correlate the different activities of health agencies both public and private. Two meetings

of this committee have been held together with representatives of the official and non-official health agencies, and in my opinion some good has been accomplished. The surprising thing to me is to see how willingly and gladly these men and women lay down their own vocations and gather for a discussion of anything that will promote the general health.

Naturally the gatherings so far have merely laid the ground work for future conferences. However at the present moment we are marking time while evaluating our position. We believe that the State Society is ready, willing and anxious to assist in any movement that has for its object the improvement of the mental, moral, material, or physical welfare of the people but until our stand is brought to the attention of all the physicians and a majority of them are interested in promoting these movements we do not care to insist on helping.

Our profession as a whole has never sufficiently considered the prevention of disease in mass and in the future the chief part of our practice is going to consist of preventive medicine. This is a problem that must be studied and solved by medical men or it will be solved for us by non-medical men. The public has an inherent right to be interested in its health. We as physicians have no superior rights. Time, custom, and our educational training have granted us privileges and prerogatives, but no actual rights, and if we fail the public, the people in the end will not fail themselves. I have been surprised at the number of times that I am asked what to charge for immunization of school children and other like measures. The profession wishes to know; the public, the public and private health agencies, all wish to know; and this is a question that should be given your earnest consideration. The charges heretofore have ranged from nothing, cost of material used, half price, and full price, to so much per hour. I have no right to go about advising physicians concerning these things. No one ever anointed me with oil, except when I was born, and lard was in quite general use at that time. Some study must be undertaken and a disposition made that will be fair and equitable to public and physician alike.

We are slowly developing a speakers bureau, under the able direction of Mr. Blank. So far we have provided speakers chiefly for scientific meetings. Our hope is to greatly expand its scope, by making direct connections with the numerous luncheon clubs, parent-teachers' associations, women's federation, farm bureaus, or other lay organizations wishing speakers. The task is

far greater than you may imagine, as the speakers must be selected with infinite care. For instance, if some doctor should address a gathering and explain to them just how wonderful a physician he was, the hundreds of appendectomies that he had performed, and the number of cases he had pulled through seemingly fatal illnesses, the cause of medicine will have been harmed more than helped.

The whole idea of course, is to educate the public in truly scientific subjects, and ethically and legitimately advertise the practice of medicine, hoping thereby to wean the people away from quacks and cults. Forty years ago the profession took care of about 96 per cent of all the sickness, and now we are treating in the regular manner 60 per cent of the illnesses. The remaining per cent has gone to the free clinics and cults. No commercial or manufacturing enterprise operating on a 60 per cent basis is more than a merely going concern. It seems imperative that something be done to check this proportionate loss and keep it from becoming even greater. The method by which this can be done is not apparent unless it lies in the education of the laity.

One of the commonest causes of inquiry addressed to the state office and one of the problems most frequently raised in county society meetings that I have attended, is the question of caring for the indigent sick. Its problem is complicated by the fact that there are varying degrees of indigency, which shade gradually downward from the person who is able to pay a regular fee. Those who are completely indigent present a further complicated problem, in the fact that these cases may be ambulatory, bedside, or hospital illnesses. In the various communities of the state each type of sickness is a more or less distinct problem, depending upon the size of the community, the type of lay organization active in health work, and the extent to which compensation insurance is carried in the community. The bedside and ambulatory cases in the rural communities are handled in a wide variety of ways. Some supervisors hire a single physician on an annual salary. Others divide the work between two or more physicians and some pay on an individual fee basis, but generally at less than the regular fee. A few counties have worked out a system that seems to answer practically all suggestions and objections. And that is a blanket contract between the board of supervisors and the county medical society. For the sum stipulated in the contract the society agrees to give medical care to all the county charges. This still

leaves the question of the borderline case which sometimes occasions difficulties between the supervisors and the physicians, but where there exists some independent agency for determining the financial ability, this problem is practically solved.

We have recently had a call from one of the larger county societies asking for a medical fee schedule for charity patients. I know of no such schedule but I am sure that many of you recognize the necessity for clarifying this situation. I am going to ask the House of Delegates to appoint a committee to make a study of this whole problem of preventive medicine, as well as the matter of services contributed toward public health so that a fixed ethical and professional policy may be adopted toward the guidance of Iowa physicians.

The greatest forward step that our Society has ever taken was the creation of the office of managing director of the Society and the selection of Mr. Vernon Blank to fill this position. Mr. Blank has had several years of similar work, understands our problems, is deeply interested, and is on the job from ten to twenty-four hours a day. I would like to have every member here get acquainted with him before you go home. He desires to serve you and may be able to help you in more ways than you imagine.

There is another matter that I feel should be brought to the attention of you all, and that is the very evident effort made to divide the profession in this state. By common consent and well established traditions the annual session is held in Des Moines every two years. The state legislature meets here and for these reasons perhaps more than any other one thing, several of your state officers, whose positions extend for more than one year have been selected from the profession here in Des Moines. Now all of you have heard that the "Des Moines Gang" is trying to run the Society and this is freely used among the legislators to defeat legislation as officially acted upon and sponsored by this Society.

The profession here in Des Moines feels this accusation very keenly and I want to assure you that every officer from this city would willingly and gladly lay down his position, were not the source and animus back of this attack well known. I have worked with these men for years and I know that they are spending hours and days and weeks in the interest, not of themselves, but of the entire profession. In the cause of common decency and fairness to them I not only urge but demand that you measure the value of these officers to the Society not by the

localities in which they live but by their unselfish service to organized medicine.

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Discussion

Dr. Mark C. Jones, Boone—This is a new subject to the Society and is one that should be given a great deal of consideration. So far as indigent patients are concerned, I have wondered if they were not on the increase and just who should be classed as indigent patients. We have a great many factors to consider; among other things preventive medicine in the community and the best method of handling this group; also how best to solve the problem connected with individuals who are anxious to put on some plan to increase the number of people who will come to the doctor for examination or other service. Very often the doctor does not understand where his financial remuneration is coming from. I believe the secretaries of the various county societies are called on several times a year to assist in putting on some kind of health campaign. They probably know more about this than do members of the society generally because a great many times the matter is talked over and dropped; nothing comes of it. I believe something should be done by the council to give us an idea where we should draw the line and what we should do in regard to the different groups of people who are coming to us not only for advice, but for real work along the lines of preventive medicine and also perhaps to have made some examinations they do not expect to pay for.

Dr. Chas. H. Magee, Burlington—I have not gone to any man or group of men for my rule of action in regard to the poor. I have one standard and try to follow in the footsteps of the Galilean. You remember that a lawyer was discussing with Him the means whereby he might inherit eternal life and finally pertinently asked, "And who is my neighbor?" And Jesus answering said, "A certain man went down from Jerusalem to Jericho and fell among thieves, which stripped him of his raiment, and wounded him, and departed, leaving him half dead. And by chance there came down a certain priest that way; and when he saw him, he passed by on the other side. And likewise a Levite, when he was at the place, came and looked on him, and passed by on the other side. But a certain Samaritan, as he journeyed, came where he was; and when he saw him he had compassion on him. And went to him and bound up his wounds, pouring in oil and wine, and set him on his own beast and brought him to an inn, and took care of him. Which now of these three, thinkest thou, was neighbor unto him that fell among the thieves?" And he said, "He that showed mercy on him". Then said Jesus unto him,

"Go, and do thou likewise". That is the thing that should be impressed on the tablets of every man's heart. Now, I will admit that as a business proposition the Levite was all right and the priest was all right, but, God bless my soul, if it were my boy stripped naked and wounded almost to death it would stab me to the heart if he were so treated by the Levite and the priest and I would want the woods to be full of good Samaritans. Suppose I am taking care of an indigent child; should I be thinking of the dollars I might get out of the case? In looking at that mother's face hovering over the child that is at the verge of the grave, the expression of anguish and agony, instead of bringing up the dollars, should bring up a vision of the Galilean with the nails driven through his hands and feet and lifted up on the cross. In the night I would go in and say, I feel that your child will recover, and when I step out to go home I know a benediction will follow me; but in going along I think, after all, I am taking care of that little child a couple of weeks and not getting a cent—does it pay? does it pay? But it may be a voice will say to me, "Inasmuch as ye have done it unto one of the least of these ye have done it unto me", and I go home and lie down, and a clear and approving conscience will sing me to sleep.

Dr. Emil C. Junger, Soldier—I think Dr. Magee and myself are the only two Christians in the bunch, the only two that talk along this line, and no doubt we have all fallen among thieves many times. Now, Dr. Smith's paper appeals to all of us all the time and everywhere, and I think we will get this problem of medical economics solved just about the time we get farm relief. The farmer uses a kind of appeal that is different from that of the medical man. In the world of the farmer he is there and producing food and he wants somebody to eat it, and they have a national prune week and a national orange week and a national corn week and a national eat-more-hog week, in order that the man who produces these products may reach an economic basis on which he can realize the costs of production. That is all right, we must not forget at any time the bread-and-butter problem. I have been a farmer in my day and have been among farmers all the time, and I realize that when he begins to farm and produce food the things he needs is a consumer for his wares so that he can pay his interest and taxes and rent and other expenses. We need some sort of a system by which the farmer will not over-produce and at the same time be able to live as well or better than he now does, and we need the same kind of system in our ranks. They used to limit one saloon to a thousand people—a thousand people would about keep two or three bartenders busy. Now if we could solve the economic problem by assigning one doctor to a certain territory in which he is to take care of the people, we would not have this problem affecting the medical profession. We need to keep busy, so we should start some place to correct the particular evil affecting us, and that is

over-production of medical men. We can control more territory nowadays, but we do not go around advocating that people have more cases of pneumonia in order to keep us busy; more appendicitis in order to keep us busy; everybody develop piles in order to keep us busy; women have more babies in order to keep us busy—we don't do these things. We are on a higher plane so far as the economic basis is concerned. We are above tradesmen, we desire above all things to correct the evils besetting mankind—we are good Samaritans and feel that we must eliminate misery. But if we are in that business now and cannot do anything else, naturally there are tremendous temptations to do something that will yield us a little revenue. Do you blame us if doctoring is all we can do? So we must go back and limit production, give every man his field, regulate us somehow by legislation. I do not make one-third the calls in the country I formerly did, although by stepping on the gas I can much more easily cover a larger territory in one-third the time it used to take. We are human and have a little intelligence, and if we can just get together, as we are beginning to do, and have some sort of head to medical economics, an organization such as Mr. Blank is building up and through which we are now getting some results, after a time many of the problems we have will be solved. But down my way I talk prevention mainly, telling the people how to keep well. I want to be a good Samaritan, I want to show the right spirit because that is the only way we can get our just reward, and if we can get at it in the proper manner some day this thing will be accomplished.

Dr. Smith (closing)—In regard to Dr. Magee, St. Peter, and the good Samaritan, I will merely say that pity, charity and human kindness are common attributes of all people, but from studies made from the United States Bureau of the Census we find that 50 per cent of the families in this country are able to pay in full for medical care, 20 per cent pay a part, and 30 per cent cannot or think they cannot pay anything at all. Now this percentage of families is entirely too large to be treated in such a haphazard manner; besides, physicians as well as other people are confronted with what Herbert Spencer calls the "imperious necessity of making a living".

CALL FOR THE PHARMACOPEIAL CONVENTION

A call has been issued, under date of May 25, 1929, to all organizations and agencies entitled to representation, to appoint delegates to the Eleventh Decennial Pharmacopeial Convention, to meet in Washington, D. C., on May 13, 1930, to consider the periodic revision of the pharmacopeia.

VARICOSE VEINS*

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The author has often been impressed with the amount of disability that accompanies the extreme and complicated cases of varicose veins and by the fact that those patients are made invalids for life who under proper care and treatment might again be made useful members of society. He does not believe that the medical profession as a whole realizes the importance of this condition and how miserable the patients so afflicted may be.

The very thought of injecting directly into the blood stream a destructive solution with the intention of getting a thrombus formation, which is always considered the parent of an embolus, seems unscientific and certainly non-surgical. This, however, is what is done in the injection treatment of varicose veins by the use of sclerosing solutions. This bit of experimental work was undertaken in the attempt to prove that the direction of the venous flow in varicose veins tended to prevent embolus formation rather than produce it.

Normally, all venous flow is upward both in the superficial and the deep system of veins. The deep veins scattered through the muscles of the lower leg are supported by the surrounding muscles and strong fascial layers. This prevents their walls giving way and producing varicosities. The muscular contractions of the leg in walking exerts a constricting effect on the veins of the deep system and thereby, with a pump-like action, forces the blood upward in these veins which are equipped with valves to prevent a reverse flow. The veins of the superficial group, however, have no support other than their own walls and that of the surrounding fascia which is mostly soft adipose tissue. The fat offers but little support to the vein walls and at times practically disappears. They too, are equipped with valves. The skin, while possessing the turgor of youth does not prevent the veins from dilating in the fatty layers and becoming elongated and tortuous. In later life, even this tonicity of the skin is lost and the veins often become but little more than large sacculi of stagnant blood. To aid in the expulsion of blood from these veins, we have the valve plus the aspiratory effect as described by Bernstein and Hallion and the aspiratory action of the pelvic veins. Between the superficial and the deep sets of veins are the anastomosing communicating

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veins, likewise equipped with valves facing in the direction of the deep circulation. Thus in a normal individual it is possible for the blood to pass from the superficial veins to the deep system, but not ordinarily in the reverse direction. If the Trendelenberg reaction is negative or double, this reverse flow from the deep to the superficial system will be possible. Whether the primary factor in the etiology here is the loss of the valve function or the injury to the vein wall from infection, thus permitting it to dilate and throw extra stress on the valves in the saphenous vein, is a much debated question.

It is the author's contention that in all varicose veins and particularly in those in which the valve action has become deficient, either through a primary destructive injury to the valve or secondary to a dilatation of the vein walls, the venous blood is stagnant or flows in the reverse direction. Particularly is this true in those veins which show a positive or double Trendelenberg test with Von Perthe's modification.

This phenomena merely demonstrates that the valves of the saphenous vein are incompetent, as in the Trendelenberg positive; or that the valves in both the saphenous and in the communicating vein are incompetent as in the Trendelenberg double, and furthermore, that the deep saphenous system is competent and functioning.

It has been the aim to demonstrate and confirm these findings in the living subject. With the aid of the fluoroscope this has been done.

With the purpose in mind of corroborating or disproving these pathological findings and observations the author injected lipiodol directly into the varicose veins of the thigh and then observed the results under the fluoroscope. It very clearly confirmed the opinion that the venous flow in varicose veins was toward the periphery, returning to the general circulation through the communicating veins and the deep system.

The idea was to determine with the aid of the fluoroscope the course taken by the injected fluid in the saphenous veins. One c.c. of lipiodol was injected into the upper limit of the varicose saphenous vein, and its progress was then observed under the fluoroscope, taking x-ray exposures at various stages.

The experiment was done on two patients with more success and better plates on the second case.

Case Report No. 2. Mrs. H. F., age forty, had large varicose veins (size 4) extending from her groin to the ankle in a continuous tortuous mass of varicosities. The circulatory test gave a Trendelenberg positive with Von Perthe's modification. The patient was placed upon the fluoroscopic table in the

sitting position, with her legs extended horizontally. One half c. c. lipiodol was injected into a large loop of vein in the upper third of the thigh and its progress observed under the fluoroscope, taking pictures at opportune intervals.

As long as the patient remained perfectly quiet, the lipiodol remained in a solid mass about the point of the needle. She was then asked to strain as at stool, producing a definite increase in intra-abdominal pressure. The globules of lipiodol passed downward about 6 inches. Relaxation caused no reflux. Further straining scattered the globules and forced them farther peripheralward. One c. c. more of lipiodol was injected and the same procedure produced similar results. Muscular activity of the foot without force caused the particles of lipiodol to pass downward into the veins of the leg and into the communicating veins, where they were seen to swirl around in aimless fashion. One particle appeared to be caught in an aneurysmal sac, for it remained twirling constantly in one place. Forceful exercise of the calf muscles, pushing against the resistant hand of the examiner, thus simulating the action of walking, caused the particles to pass into the deep system, where they advanced toward the heart with each pump-like action of the leg.

During inspiration, the globules in the superficial varicose saphenous veins were forced peripheralward about one inch. Those globules in the deep system remained stationary. This was the effect of intra-abdominal pressure upon the valveless saphenous. Expiration with its negative intra-abdominal pressure produced no change in the superficial varicose saphenous, but due to the aspiratory effect, tended to draw the particles centralward from the deep system of veins. With repeated expirations, we were able to aspirate the particles of lipiodol further centralward through the deep system of veins, but this had no effect upon the particles of lipiodol in the superficial veins.

The author believes that the greater volume in the varicose veins is not influenced during expiration by the aspiratory effect within the abdomen. The blood therefore, follows the path of least resistance and passes downward through the communicating into the deep veins and then centralward, where the physiologic factors are more normal.

The author also believes that these experiments demonstrate and confirm the findings of Bernstein, which he obtained through extensive operative work in the surgical treatment of varicose veins, to be as follows:

1. In the early cases of varicose veins of the legs, the valves in the saphenous may be competent and there is no reverse flow. In these, there is merely a stagnation of blood. These demonstrate the Trendelenberg nil.

2. In the moderately advanced cases, the

valves have become deficient and the Trendelenberg test is positive, with the blood flowing downward in the superficial saphenous and into the deep veins through the communicating veins, the valves of which are still normal.

3. In the advanced cases, the valves in the communicating veins are also destroyed and thus a Trendelenberg double is developed.

This explains clearly how valvular incompetency in the great saphenous (Trendelenberg positive) plus the valvular deficiency in the communicating veins (Trendelenberg negative) gives the condition described as Trendelenberg double. In this condition, we get a reverse flow from both the superficial and deep system of veins, causing a stagnation of blood in the dependent extremity with a saturation of the tissues by blood serum. It is this saturation of the tissues that lowers their resistance and makes them so susceptible to infections and later to ulcer formation, the dreaded end result of varicose veins.

In all varicose veins of the lower extremities, the circulation is either stagnant or reverse. An embolus, if formed from the chemically induced thrombus, is forced distally toward the smaller and branching veins, where it would most certainly be arrested.

Until some more definite reason can be found to account for the rare development of emboli, this explanation of their unusual occurrence must be accepted.

The indications for the injection treatment varies according to the conservatism of the clinician and according to his experience.

Professor Sicard is perhaps the most conservative of all; in fact, he considers only those cases as fitting and suitable for the injection treatment which present definite disabling pathology, due to varicose veins.

Personally, the author believes the indications for the injection treatment of varicose veins should be very much broader than this, and he has come to believe that all cases of varicose veins should be treated by the injection method unless there is some definite, positive, contraindication, inasmuch as the danger entailed is so slight.

The conditions present and accepted by all men as a positive indication for this treatment, are the following:

1. Varices which are so large and painful that they partially or totally disable the patient.
2. Varices which have developed the complication of ulcer, eczema, or pruritis.

In addition to the above the more liberal minded clinicians believe that varices associated with arthritic pains about the knee and ankle

should be cared for. Oftentimes the apparent rheumatic condition is due to the varices themselves and not truly rheumatic.

The author does not believe that the complicating varices of pregnancy, when they are painful or distressing due to their large size, should be considered a contraindication and personally he classes them definitely in the realm of cases demanding treatment. It is true that a large majority of these cases will partially or completely disappear during the few months following confinement. Even so, is it logical that we should ask a woman to suffer for three to five months with a condition which can be relieved with such little difficulty and with such comparatively slight risk? Is it reasonable that she must suffer and endure her pain and disability merely because she has the hope of being relieved of her fetus at the end of her nine months period and of gaining relief from pain soon thereafter? With this thought in mind he believes that every case of varicose veins accompanying pregnancy before the sixth month and which causes the patient any considerable amount of discomfort, either directly through pain or otherwise should have the injection treatment for her veins. The author chooses arbitrarily the sixth month, inasmuch as the amount of suffering entailed by this treatment can be compared to that the patient must endure through the last two months of her pregnancy—though not more.

The author treated one case of varicose veins in a pregnant woman where she was totally disabled at eight months, and yet three weeks later, one week before confinement, she was going about as happy and contented as she was in the third month of her gestation.

The author sees no reason why vulvar varices should longer be classed in the contraindicated group. They are among the most painful varices we find and yet with a proper technique for the case they respond very well to treatment.

Varices present in cardiovascular and cardio-renal cases are on the border line. In each individual case the question must be decided whether the patient should or should not be treated. He believes that the treatment of large varices, in the mild case of decompensation can only serve to aid the general circulatory condition, and thereby improve the general status of the patient's health. For this reason he believes that many varices in the cases of mild decompensation are among those where injection treatment is indicated.

Last, but not least—he believes that every patient should have the right and privilege to decide for themselves whether or not they should

have their veins treated solely for cosmetic reasons. It is just as great a calamity to the patient suffering from unsightly varices similar to the "spider" or "skyrocket" type and as important to her that she receive treatment and a successful cure, as it is to the working woman who is positively crippled and disabled and thus kept from earning a livelihood.

The author has never been able to see the logic of forbidding this treatment to elderly patients. Some of his most happy patients have been from seventy-five to seventy-eight years of age. Whether the particular and individual case at hand falls into the class of those where treatment is justified, must be decided in each case as it comes for care. Judgment must be used, however, in the choice of solution used in the treatment of the aged. Varices are often seen in the other extreme of life. The author had one patient ten years of age where undoubtedly the condition was congenial; yet, she felt much relieved following treatment. Thus age itself is certainly no contraindication.

Many clinicians extend the line of contraindications very broadly, yet with them the author does not agree.

The one contraindication accepted by all physicians is the case where a definite, positive, infectious, thrombo-phlebitis has been present at some time in the past, either following confinement or otherwise, and which has left the deep venous system of the leg severely injured or destroyed. In these cases the varices may be entirely compensatory in nature and therefore, must be preserved. On the other hand, the mere fact that the patient gives a history of a deep thrombo-phlebitis must not be taken as a positive contraindication to the injection treatment of her varices which may be present co-incident with the former. If the patient responds correctly to the various tests which are used to prove the functioning of the deep venous circulation, and the circulation in the varicose veins which may be present are of a reverse flow, the author sees no reason, whatsoever, why they should not be treated.

Recent cases of thrombo-phlebitis in the deep system will be positive and definite contraindications and must remain so until time alone has proven the extent of destruction to the deep circulation and the infectious condition has entirely quieted down. Many authors feel that the stimulation produced following the injection treatment may reactivate the latent infection of thrombo-phlebitis, which at times persists for years.

Compensatory varices of the upper thigh and lower abdomen, which are thought to be indica-

tive of obstruction to the iliac system, should be very carefully examined before treatment is given. They may also be due to the portal blockage of cirrhosis of the liver.

In cases of varices of the leg complicating large uterine fibroids or other pelvic tumors, the author believes the pathology of the pelvis should be cared for surgically first and the varices treated by injection later, if they persist.

Varices accompanied by elephantiasis may or may not be treated and each case must be decided by itself. The author believes that usually the varices in these cases are of such minor importance in comparison to the major condition, the elephantiasis, that they should be left alone and the treatment directed toward the major condition itself.

This experimental work was done in connection with the varicose vein clinic at the Minneapolis General Hospital. I wish to thank Dr. Carl O. Rice for his assistance at the clinic and in this experimental work.

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PHYSICO-CHEMICAL FACTORS, DIAGNOSIS AND TREATMENT OF ACIDOSIS AND ALKALOSIS*

C. M. PORTER, M.D., Woodward

As the title of this paper implies that it is to present physico-chemical factors of acidosis and alkalosis the writer wishes to qualify the implication by substituting: "Some physico-chemical factors".

We also wish to offer the explanation for presenting both alkalosis and acidosis in a paper which must necessarily not take up too much of your time, and that explanation is: That when we have laid the foundation for the consideration

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of either of them, we have but to put our facts in reverse order and we have the physico-chemical deductions which afford the basis for the other.

Furthermore, we should emphasize the fact that neither acidosis nor alkalosis are primary diseases but are secondary to some underlying condition and can be treated successfully only if the primary cause receives adequate attention.

Life, as we view it, consists of an incomprehensible number of finely balanced chemical reactions occurring within the protoplasmic cells. When these reactions are normal, we have health—when they are abnormal, we have disease, and with a complete incoordination of these reactions we have death.

As physicians, we are concerned with the ways and means by which the chemical reactions and physical forces, occurring within the body, may be controlled or directed, so as to maintain a normal function.

Acidosis may be defined as: A condition arising within the protoplasmic tissues of the body whereby the hydrogen ion is present in abnormally excessive numbers. It is secondary clinically to a number of primary conditions the most common of which occur in the following order:

Ketosis: which is a condition wherein there is an over production of the acids of the ketone group, namely, beta-oxybutyric and aceto-acetic. The explanation for their occurrence lies in that peculiar cell interaction that takes place when fats are appropriated as fuel for the body. Under normal conditions fats are broken down by a series of steps, one of the last stages being the formation of beta-oxybutyric and aceto-acetic acids. The process is halted at this stage unless sugar is being utilized in the relation of one molecule of sugar to two molecules of the acids in question, which is necessary to break these acids down into carbon dioxide and water.

This condition may arise in any depleting sickness: starvation, typhoid fever, vomiting of pregnancy, untreated diabetes, acute dysentery, persistent vomiting in children, an over energetic attempt at weight reduction, etc.

There is also an acidosis due to an increased production or retention of lactic acid. During extreme muscular exercise there is a production of lactic acid from carbohydrate. Pulmonary aeration is the main neutralizing factor. In the absence of extreme muscular exercise, we can expect lactic acid acidosis in deficient pulmonary capacity such as may result from massive pneumonia, pulmonary fibrosis, pulmonary abscess or any of those things that bring about a restricted pulmonary reaction. Also in the crippled cardiac conditions when compensation is failing and in-

sufficient oxygen is reaching the tissues and lactic acid is accumulating—also in sudden extreme hemorrhage.

There is an acidosis due to nephritis. This acidosis is not of the acetone acids or increase of lactic acids but is caused in part by the failure of the kidney to excrete acid phosphate and in part to the lack of formation of ammonia. With the retention of acid phosphate the bicarbonate element of the blood must undergo reduction, and the bicarbonate element must also supplant the absence of ammonia. These two factors must result in an excess of acid accumulation in the body fluids.

There is an acidosis that results from the administration of anesthetics. Here we have in part to consider the factors entering into lactic acid acidosis and the acidosis of acetone acids, plus those conditions that are factors in suspended renal function. I will not review these in further detail as it would consume an unwarranted time to be within the scope of this paper.

Thus far we have reviewed, with a degree of brevity almost faulty, the factors and types of acidosis that constitute the majority of such cases as we meet in our daily routine work.

With a like degree of brevity we will undertake to present and describe the mechanism of these processes as they present themselves in the laboratories of physiologic chemistry.

To those of us who have been outside of the laboratories of our medical colleges for a few years we meet with more and more frequency, certain terms, theories and expressions of facts that are new to us. The individual atom as we now see it is a miniature solar system composed of a nucleus of positive charge and surrounded by a number of negative charged particles known as electrons. These electrons are all identical and travel in a definite course or orbit about the central "sun", or positive charged nucleus. The nuclei on the other hand vary in amount and size of electrical charges. Hydrogen for instance has only enough positive electrical charge to attract one electron. Uranium has sufficient electrical charge to hold ninety-two electrons. In between these extremes we have the whole group of elements, the atoms of which differ only in the number of electrons associated with the central nucleus. Electrons, as we see are not stationary particles—they are in action and this action represents energy. This energy is termed kinetic energy. Some atoms do not carry a perfect balance of electrons, and to stabilize the balance they have electrons that swing away from the nucleus and are called comet electrons. The sodium atom has ten stable and one comet electron.

Chlorine has seventeen electrons thus requiring one more to make it a well balanced system. The extra sodium electron is taken by the chlorine atom resulting in the formation of sodium chloride.

This inter-atomic change results in one atom carrying an excess of one negative charge because it has acquired one electron from a weaker and unbalanced neighbor. The sodium, being the weaker atom is also carrying an excess of one positive charge. When these two atoms are redissolved the dominant atom sodium chloride retains the comet electron it has captured and the remaining atoms undergo a varying degree of dissociation. There are therefore liberated a number of independent particles charged with electricity. This liberating transformation is known as ionization and the independent electrical charged particles are called ions. Not all substances are capable of ionization, or as it is sometimes called "electrolytic dissociation".

Lyman C. Newell, Johns Hopkins, professor of chemistry in Boston University presents the subject of electrolytic dissociation along the following lines: "Substances capable of forming electrons are electrolytes. These substances form conducting solutions. When acids and bases and salts enter into solution, their molecules dissociate in a varying degree, into independent particles charged with electricity. This is known as ionization. The independent particles are called ions. Two kinds of ions are present in every electrolytic solution: Electro-positive ions and electro-negative ions. Acids may well be defined as water solutions containing hydrogen ions (H^+). A base is a compound whose water solution contains hydroxyl ions (OH^-). Salts may be regarded as formed from acids or from bases by substitution of a metal for the hydrogen of an acid or a non-metallic group for all the hydroxyl groups."

A neutral solution is one having exactly 0.000.-000.1 gram of hydrogen ions per liter. For the sake of brevity this is designated as PH 7. The normal reaction of blood is PH 7.4. This does not vary in health more than from PH 7.3 to PH 7.5.

In our definition of acidosis we stated that it may be defined as a condition arising within the protoplasmic tissues of the body whereby the hydrogen ion is present in abnormally excessive numbers. In order that we may determine such conditions we enumerate the following diagnostic observations and procedures.

One of the physiological purposes of respiration is the removal of carbonic acid from the blood. This function also is under chemical reg-

ulation. Residual carbonic acid in the blood is the physiological stimulus to the respiratory center in the brain whereby the character, quality and rate of respiration necessary to bring about normal blood concentrations of carbonic acid and oxygen is given expression. Whatever form of acidosis may be present there is observed deep, pauseless regular respirations. The greater the amount of carbon dioxide present in the blood, the deeper will be the respirations.

The determination of the hydrogen ion concentration in the blood is a laboratory procedure and hardly comes within the scope of this paper as the same concerns the general practitioner.

Acids are removed by the kidney, and when acidosis is present, we are able to obtain some positive and diagnostic reactions by testing the urine. The urine in health is PH 6.0. When any significant degree of acidosis is present the urine becomes regularly more than PH 6.0. The indicator brom cresol purple is purple to and beyond PH 6.0 and greenish purple to the acid side of PH 6. When acidosis is present the PH of the urine will be such as to change the indicator to a greenish yellow.

A few grains of sodium bicarbonate given one-half hour before the test will cause the reaction to show less than PH 6.00 in the urine. In acidosis, much larger amounts will be necessary to show the same results. When the type of acidosis is beta-oxybutyric, aceto acetic and acetone, these substances are present in the urine and sufficient acetone may be present in the expired air to give it a characteristic fruity odor. The presence of expired acetone may be confirmed by bubbling some of the patients breath through Scott-Wilson reagent, an alkaline mercury solution. When acetone is present a distinct cloud forms in the solution. Unless there are large enough amounts of acetone bodies in the urine to give a positive ferric chloride test, they may be disregarded.

The ferric chloride test is made simply by adding to the urine a 10 per cent solution of ferric chloride until no more precipitate forms and the color becomes no darker. In the presence of acetone bodies, ferric chloride solution gives a deep reddish brown color. Thus we have at our disposal (and simple of application) brom cresol purple for determination of hydrogen ion concentration in urine above PH 6.0—this determines all clinical types of acidosis, the Scott-Wilson reagent to determine acetone in the expired air and the ferric chloride to determine the presence of acetone bodies in the urine.

The treatment of acidosis depends upon the type and underlying cause. In the acetone body

type, the essential indication is to give carbohydrates. If urgency exists a 5 per cent glucose solution should be given intravenously. The usual maximum amount of a 5 per cent glucose solution is 20 c.c. to each three pounds of body weight. The assumption is that 1 unit of insulin will bring about the combustion of 2 grams of glucose. The amount of sugar that should normally be present in an individual weighing 150 pounds would be about 42 grams. Giving such an individual 50 grams of sugar we would give 25 units of insulin. The oxidation of 50 grams of glucose will cause the simultaneous oxidation of acetone bodies and the base released by these acids will raise materially the bicarbonate content of the blood.

In diabetes there is a larger amount of sugar in the blood and tissues than normal, but this sugar cannot be burned. The object of the treatment is to bring about a combustion of the sugar. When this is done the acetone bodies are oxidized and their bases released to form bicarbonate. We should differentiate between treating a patient with acidosis of diabetes and the patient who presents clinically simple diabetes. In the former we treat the patient for acidosis only. When the acidosis is relieved we treat the diabetes. The acidotic diabetic is treated primarily the same as the acetone body acidotic with the exception of a reduction of about one-half in the amount of glucose administered to the unit of insulin, or 1 gram to the unit. The adult diabetic in coma would ordinarily receive 50 units of insulin with 50 grams of glucose which may be given in 10 per cent solution. With the disappearance of the acidosis and the urine showing alkaline to brom cresol purple, the further dosage of insulin will be based on the appearance or disappearance of sugar from the urine. Sodium bicarbonate is not indicated for the reason that when the acetone bodies are destroyed a condition of alkalosis may supervene which is as serious as acidosis. Fruit juices which are organic acids are resolved into bases and may contribute slightly to the blood bicarbonate.

In acetone body acidosis of starvation the obvious indication is to give carbohydrate in available form and an abundance of water.

In lactic acid acidosis the administration of large amounts of water by mouth and intravenously constitutes the one effective treatment. In cardiac insufficiency, phlebotomy may be advantageously employed.

The acidosis of nephritis is but one of the manifestations of renal insufficiency. Alkalies are contraindicated as they might cause convulsions.

ALKALOSIS

With the physico-chemistry of acidosis fresh in our minds, we can conclude the subject of alkalosis with considerable brevity, not because alkalosis is the minor condition of the two or is less serious in its effects upon the human body.

Alkalosis occurs when there is an abnormal loss of acid from the body or an excess in the concentration of alkali.

The blood plasma may be considered as a solution of sodium bicarbonate of the strength of 0.25 per cent or 2.5 grams of bicarbonate to the liter.

With the hydrogen ion concentration of PH 7.4 representing the acid positive extreme in health and 0.25 per cent of sodium bicarbonate representing the alkaline limit of health and the negative extreme, we have defined the range at which ionization normally occurs. When alkalosis occurs there is a tendency for the hydrogen ion concentration to become less and the hydroxyl ion content of the blood to become more. This causes a change in the ionization of other constituents of the blood. As we have previously observed in acidosis the residual carbonic acid in the blood passing through the respiratory center in the brain causes deep, regular, continuous respirations to occur in an effort to blow out carbonic acid and establish the hydrogen ion at its normal level. With the more alkaline blood of alkalosis, the respiratory center receives less than its normal acid stimulus and the respirations of alkalosis are slow, shallow and associated with short periods of apnea. The depressed respirations result in deficient oxygenation and cyanosis frequently occurs.

Alkalosis may be induced by the excessive removal of carbonic acid by the lungs. This occurs sometimes as the result of brain lesions involving the respiratory center. Children may cry so continuously as to bring about alkalosis. The body may lose considerable acid in the form of hydrochloric acid from vomiting, vomiting of pregnancy, etc. In the psycho-neuroses when the patient vomits almost constantly, I am sure that I have observed this particular type of alkalosis and the clinical picture is one of utmost gravity. In the presence of pyelitis and nephritis alkali retention is likely to occur, both as the result of retention and vomiting. Alkalies are often administered excessively in acidosis and an alkalosis may supercede an acidosis.

When alkalosis occurs there are present some of the causes and symptoms already enumerated and in addition to these there are the symptoms of tetany. A decrease in the amount of ionized

calcium in the blood results in an alteration in neuromuscular irritability throughout the body manifesting itself clinically as tetany. When the alkaline content of the blood exceeds its normal relation to the PH content of the blood, calcium ionization fails and tetany results. Tetany may manifest itself by muscle cramps, tingling in the fingers and slight mental disturbances or there may be marked carpo-pedal spasms and general convulsions. Mechanical stimulation of a branch of the seventh nerve causes contraction of the facial muscles and is known as the Chevestick sign. Constricting the veins of the upper arm will induce carpal spasm and is known as Trousseau's sign. These signs can be elicited in latent and active tetany.

Much has been said about calcium and calcium deficiency. The calcium content of the serum, and practically all calcium is in the serum, is 11 mg. per 100 c.c.

In the tetany of parathyroid extirpation the serum calcium may go as low as 2 or 3 mg. per 100 c.c. When the calcium falls as low as 5 or 6 mg. active convulsions usually occur.

In advanced nephritis the calcium of the serum falls very low. This is due to its precipitation into calcium phosphate as the result of excessive retention of phosphates in the blood. Since it is only the ionized calcium that exerts a physiologic effect, any condition which decreases the ionization of that element brings about the same effect as an actual decrease in the total amount of calcium present. When a decrease in the ionized calcium of the blood occurs the symptoms of tetany appear. In parathyroid tetany and the tetany of infants, the calcium of the blood is actually low. Thus it seems apparent that the parathyroid presides over the regulation of blood serum calcium, while the relation of hydroxyl ions to PH ions preside over calcium ionization. This is apparent in as much as in the tetany of alkalosis, the total amount of calcium is not necessarily low.

In alkalosis the urine does not share in the alkaline manifestations due to the fact that the disturbances to the intestinal tract have the effect of diminishing the chlorides. It should be noted that sodium chloride is the most abundant mineral constituent of the blood serum, the amount present under normal conditions being about 600 mg. per 100 c.c. In gastric and renal disturbances the chlorides are vomited or escape in the tissues and sodium bicarbonate takes the place of sodium chloride. It might be expected that the excess of bicarbonate would be excreted by the kidneys so that the bicarbonate concentration would fall to a normal level. But when we

observe that the salts dissolved in the blood plasma give it osmotic pressure and note that the chlorine deficiency has been substituted by sodium bicarbonate we can readily see that the phenomenon of osmosis would be vitally disturbed if any further loss of salts were to take place. This would be disastrous. The urine therefore remains acid in alkalosis. If sodium chloride is administered to supply the lacking chlorides of the blood and restore a normal osmotic pressure, the bicarbonate is eliminated by way of the urine and the urine becomes strongly alkaline.

The treatment of alkalosis and tetany is in brief, such measures as we know will correct the underlying causes. The administration of hydrochloric acid, obviously is corrective. It has been found that the administration of ammonium and calcium chlorides have essentially the same effect as that of giving hydrochloric acid itself.

Ammonium chloride may be given by mouth in a dosage of 75 to 100 grams daily. Calcium chloride may be given in the same doses. In severe alkalosis calcium chloride may be given intravenously.

Elimination of alkali is favored by the administration of large amounts of fluid and these should be given in every way possible. Subcutaneous salt solution is an ideal method of treatment in as much as it supplies chlorine which favors the elimination of alkali by way of the urine. In order that the calcium carrying properties of the blood may be brought to normal the parathyroid hormone should be administered freely.

Progress in medicine today is very largely dependent upon additions to our knowledge of the chemical transformations accruing within body cells and it is with this aspect of the subject that I have made the endeavor to present a correlation of facts that deal with some of the intercellular interchanges incident to disease.

When we appropriate the results of present day facts and plus them to the fundamentals of a few years ago, we wonder what the future has in store for the medical practitioner.

Would it be too fanciful to visualize the physician of the future as essentially a chemist of high standard and his armamentarium in part a chemical laboratory wherein he analyzed and determined the chemical digressions of kinetic forces from the normal standards and restored them through the laws of electrolytic dissociation?

With a respectful reverence for those who have gone before us and by constant endeavor on our part may we render to our profession all that lies within us, to hasten the realization of whatever new era may be in the dawning.

MASTOIDITIS IN INFANTS*

D. M. LIERLE, M.D., Iowa City

The purpose of this article is to present the results of a study of 160 cases of mastoiditis in infants—from birth to two years of age—observed at the State University of Iowa during a period of six years, 1923-1929. Due to their intimate relationship, it has been necessary to include some discussion of infections of the middle ear, nose and throat.

As far back as 1868, Wreden observed that many infants dying of bronchial pneumonia showed evidence of infection in the middle ear and antrum. Thirty years later, in 1898, Hartman¹ of Berlin published the following conclusions:

1. That mastoiditis in infants may be accompanied by disturbances of nutrition such as are evidenced by dyspepsia and emaciation.
2. That upon evacuation of the contents of the middle ear through paracentesis, disturbances in digestion will disappear and an increase in weight will follow.
3. That elevations of temperature shown in the reports of intestinal disturbances may be referred to complications of otitis.
4. That in all cases of intestinal infections in infants accompanied by elevations of temperature and reductions of weight, examination of the ears for the possible presence of otitis should not be neglected.

Dean,² in discussing Lyman and Alden's paper, "Gastro-intestinal Disturbances in Infants", reports several cases of acute otitis media seen in the pediatric service at the University of Iowa.

Alden and Lyman,² in a report of seventy consecutive necropsies on infants who had died from athrepsia and infantile diarrhea, stated that suppurative of the middle ear was found in all of the cases. Thirty of the cases were diagnosed as acute otitis media in life; and the remaining forty, at necropsy.

Marriott,³ observing that acute nutritional disturbances in infants associated with diarrhea, fever hydrolability, and toxic symptoms are not the result of a food or alimentary intoxication—in the sense that some particular element of the food is at fault—was forced to the conclusion that they must be caused either by some metabolic disturbance or by a toxemia of infectious nature. He found at necropsy no lesion of the gastro-intestinal tract and no infectious foci in the cases examined. Two years later, however, when more

complete necropsies were done on infants succumbing to nutritional disturbances, he found that the mastoid antras, in a large majority of cases, were filled with purulent material containing hemolytic streptococci. Since in many of these cases, a myringotomy had been done sometime previous to death, it was evident that myringotomy alone was not sufficient to secure ample drainage of the mastoid antra.

Jeans and Floyd,⁴ in 1926, called attention to the fact that mastoiditis or nasal sinusitis might produce a clinical picture identical with that known as "cholera infantum", and that these infections were the common cause of definite clinical pictures. They said that in a number of deaths caused by what seemed to be "cholera infantum" the only significant pathological findings were in connection with mastoiditis or nasal sinusitis. That these findings were not merely coincidental has been clearly proved by the fact that many of the patients, upon the establishment of drainage, recovered immediately from constitutional disturbances.

Reinaud,⁵ in 1921, at the post mortem examination of seventy infants at the Bettoneau Hospital, found without exception, the presence of diffuse suppurative lesions of the ear extending to the whole petrous bone.

Gomperez,⁶ 1928, writes of systemic disturbances which he believes are due indirectly to infections in the middle ear.

Byfield,⁷ says "a recent experience with very young infants has confirmed the reports of certain French clinicians who have assumed that the infected mastoid antrum may lead to severe gastro-intestinal and grave nutritional diseases". He reports that three infants under two months of age dying with a syndrome of gastroenteritis, dehydration, and acidosis, were found, at necropsy to have only infected mastoid antra. In the next six cases, the conditions were recognized; and all but one of the patients recovered.

Similar conditions have been recognized and reported by Drury⁸ and Preysing.⁹

Le Mee and Bouchet,¹⁰ trying to account for numerous cases in which, at death, pus was found in the middle ear, offered the following hypothesis—either that the presence of pus in the tympanic cavity is an agonal event or that it is of an exogenous nature; that is, not pus of true otitis but one of a kind of empyema of the middle ear, a supplementary reservoir for the pus of the cavum.

We have seen only one case in which pus in the middle ear may have been a terminal infection. This infant, about one year of age, died

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of miliary tuberculosis. No previous examination of the ears had been made; but at necropsy, we found a small amount of thin white pus limited to the tympanum.

Le Mee and Bouchet¹⁰ attempted to prove that a liquid could enter the middle ear, either by force of gravity or by capillarity. They instilled a solution of methylene blue in the nasal fossae. Very often, several days later, the tympanum was greenish in color, indicating that the methylene blue had reached the middle ear. Histories in many of our acute cases revealed that the infants had been fed lying on their backs.

Veillard maintains that in 30 per cent of post mortem examinations the cavities of the middle ear are found to be filled with muco-pus which if removed by irrigation with water, leaves the mucosa and ossicles in a healthy condition.

ANATOMY

Let us briefly review a few of the anatomical facts of the infants' temporal bone and its adnexa. At birth, the temporal bone consists of the squamosa, petrosa, annulus, ossicles, and labyrinth. The annulus is a two-third ring of bone which holds the drum membrane in place. It is nothing but the ossification of the early connective tissue at the periphery of the first visceral arch. The annulus forms a 50-60° angle with the vertical plate of the squamosa. Therefore, the drum membrane is very obliquely placed. There is usually a normal sagging of the superior wall, which at times is in apposition with the inferior wall necessitating downward and backward traction of the auricle in order to bring the drumhead into view. As the brain grows, this annulus keeps up its growth with the lateral extension of the brain, and, therefore, becomes the bony floor and lateral walls of the external auditory canal. The horizontal portion of the squamosa is formed by the lateral growth of the brain. Due to lack of development of the squamosa and petrosa, little or no pneumatization is present at birth. However, according to Dr. H. J. Prentiss,¹¹ the antrum, tympanum, ossicles, and labyrinth are as large in the infant as they are in the adult. Prentiss has shown that the floor of the antrum is on a lower level than the floor of the aditus, and that in an infant, a portion of the antrum is dependent; so that any collection of pus therein cannot possibly find drainage (Plate I).

A long standing infection, therefore, may resolve in the tympanum, and still be present in the antrum. According to Prentiss, there is, in the infant, a space in the tympanum between the malleus and the incus which may be closed off

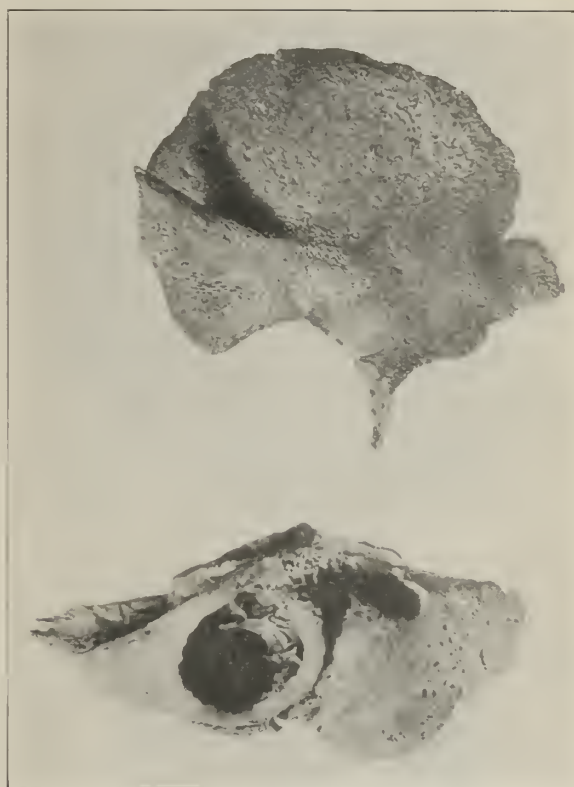


PLATE I. Showing dependent portion of antrum of temporal bone of infant at term.

from the rest of the tympanum so that when a myringotomy is done, some pus will still remain in the epitympanic space. Such a condition is comparable to attic suppuration in an adult.

ETIOLOGY

1. Infections of the tympanum and mastoid are apparently usually secondary to infection in the nose and throat. This, we can readily see, is due to the fact that drainage from sinuses and infection in the naso-pharynx can easily gain entrance to the middle ear through the short horizontal and the patent eustachian tube.

2. The prevalence of sinus disease is probably best accounted for by variations in climate. According to the report of the U. S. Weather Bureau, the precipitation in Iowa for May, 1926, was 4.64 and the mean average temperature was +54.6°—with slight daily variations. During this month, we saw, one case of acute otitis media. The precipitation in January was 1.63 and the average mean temperature was +22.6°, while in February the precipitation was 1.55 and the average mean temperature 32°. In January, the cases of otitis media seen in infants numbered eight; in February, eleven. According to these figures from the U. S. Weather Bureau, it would appear that precipitation has very little to do with



PLATE 2. Showing eustachian tube in a child and an adult.

the incidence of otitis media, but that low temperature and extreme changes from day to day play an important role. This hypothesis is strengthened by the fact that in three months, June, July and August of 1926, we saw only three cases of otitis media in infants, whereas in September and October of the same year, with the variations in temperature, twelve cases were observed.

3. All but eight of the infants in this series were artificially fed. Many of the formulae were not properly balanced. I explain this point because it has been shown that rats fed upon diets deficient in fat soluble vitamine A are more prone to sinus infection than those receiving diets which are rich in vitamine A.

4. Otitis media is frequently present in infants suffering from a systemic infection, such as pneumonia, pyelitis, etc. Infection of the middle ear in these cases are rarely hematogenous in origin.

5. Middle ear infections may be explained upon a mechanical basis. Obstructed nasal breathing due to septal deflections, hypertrophied turbinates, atresias of the nares and mechanical factors result indirectly in infections of the tympanum and mastoid.

6. Prematures, luetics and the congenitally malformed infants, such as cleft palate babies, appear to be more prone to infections of the middle ear than do normal children.

7. We have seen two cases of acute suppurative otitis in infants two days following birth. These may have been caused by the retention and decomposition of amniotic fluid within the tympanum in which the bacteria find growth.

8. Hematogenous infection may be a causative factor.

9. Gomperez⁶ has suggested that the embryonal tissue persisting in the middle ear mucosa beyond the fetal period is especially subject to infection.

BACTERIOLOGY

In the presence of hemolytic streptococcus, hemolytic staphylococcus albus, and the encapsulated streptococcus, the infection is usually most severe. Following myringotomy, cultures were taken from the canal; and at the time of operation, they were taken from the mastoid. Those from the canal were of very little value, nearly 75 per cent being reported staphylococcus albus non-hemolytic; 2 per cent, hemolytic staphylococcus albus; 15 per cent, hemolytic streptococcus; 6 per cent, non-hemolytic streptococcus; and 2 per cent, unidentified organisms. Those from the mastoid differed greatly. Hemolytic streptococcus was reported in 33 per cent; non-hemolytic streptococcus, in 26 per cent, hemolytic staphylococcus, in 10 per cent; non-hemolytic staphylococcus, in 22 per cent; pneumococcus types I and II, in 2 per cent; streptococcus veridans, in 1.5 per cent; diphtheroids, in 1.5 per cent; gram negative bacillus, in 0.25 per cent; gram positive bacillus, in 0.25 per cent; hemolytic colon bacillus, in 0.25 per cent; and pneumococcus type III, in 3.25 per cent. The virulence of the infection proved greater where hemolytic streptococcus, pneumococcus type III, and hemolytic staphylococcus were found. However, one cannot always rely upon the organism as an index to the severity of the infection, because

many clinically virulent cases show staphylococcus albus on culture. At various times throughout the year, the streptococcus was the prevailing organism. In nearly all cases complicated by sinus thrombosis, septicemia, meningitis, or pneumonia, the streptococcus was the causative organism.

Blood cultures were reported positive in thirty cases. Hemolytic streptococcus was reported in ten, non-hemolytic streptococcus in five; hemolytic staphylococcus, in two; non-hemolytic staphylococcus, in ten; *B. coli*, in two; and streptococcus veridans, in one.

PATHOLOGY

Only a preliminary study has been made of the pathology of the temporal bone in infants. Our attention was directed to the size of the acutely infected tympanum. Clinically, in several instances, the cavity appeared to be obliterated by the swelling of the tissues. For instance, at the time of myringotomy, dry taps were obtained; and yet at the time of operation, much pus and evidence of infection was found in the antrum. Although there was marked edema of the mucosa and underlying embryonic tissue, the tympanums and antrums were still very large. In many instances, they contained pus, so thick indeed that drainage by myringotomy seemed to be impossible. However, folds of mucous membrane forming pockets were found, especially in the region of the aditus. It is conceivable that these folds might contain pus which would not be drained by simple myringotomy. The aditus *per se* was found to be very large, even larger than in the adult. Collections of pus found be-



PLATE 3. Photomicrograph showing dead bone and inflammatory tissue.

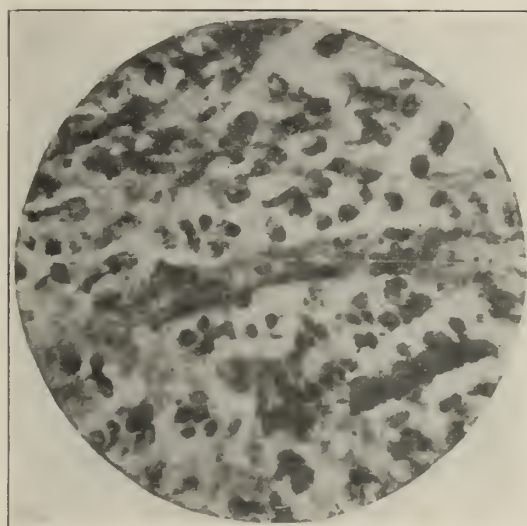


PLATE 4. Photomicrograph illustrating inflammatory cells and blood-vessels.

hind the ossicles in the antrum suggested that the mucosa, which covers them and the ligaments, may be the cause of some obstruction to the drainage of the antrum.

Sections taken presenting typical cases of acute mastoiditis gave the following findings. The cavities of the middle ear were filled with pus. In some, pus was found only in the antra, the acute infection having apparently subsided in the tympanum. The exudate was made up largely of polymorphonuclear neutrophiles, together with a small number of round cells and some necrotic material. Thick pus surrounded the ossicles and extended through the aditus filling the tympanic cavity. The epithelium lining these cavities and covering the ossicles, was for the most part, intact. The epithelium near the eustachian tube was columnar, ciliated, and had a definite cuticular margin. It became flatter as it approached the drum membrane and the antrum. In the antrum it was low, cuboidal, and without a definite cuticular margin or cilia. The epithelium lining the mastoid cells was even flatter, being pavement in type. Numerous polymorphonuclear leucocytes were seen working their way out between the epithelial cells. The embryonic type of tissue underlying the epithelium was markedly thickened and very edematous, in contrast to that of the normal adult. If the cavities were acutely infected, the tissue was even more thickened and also more edematous. There appeared to be in some, a fibroblastic proliferation. In the underlying bone, some of the cancellous spaces were filled with loose fibroblastic tissue; others contained hyperplastic bone marrow. In no instance of acute infection, was the periosteum elevated.

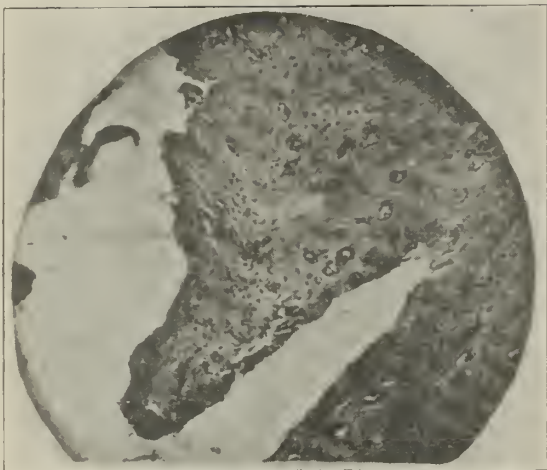


PLATE 5. Photomicrograph illustrating old granulation tissue.

The presence of the fibroblastic proliferation, together with the type of inflammatory cells found in the submucosa, indicated a reaction of some duration.

Clinically, in many cases that gave acute symptoms, the pathology proved to be more chronic in character. In the acute infections only dilation and congestion of the blood-vessels was evident. The chronic cases showed some reactions of the periosteum. The interstices showed some fibrosis, an increase in the round cells, and an occasional giant cell. There was usually some sclerosis of bone.

SYMPTOMATOLOGY

The study of these cases has been carried on in cooperation with the department of pediatrics under the direction of Dr. Jeans. A very close relationship must exist between the pediatricist and the otologist.

The clinical picture in the typical acute case is quite definite. Usually the onset is sudden; the infant critically ill. Food refusals preceding and during illness are frequent. Vomiting is common. The weight may remain stationary, but sudden drops due to marked dehydration are usual. With dehydration the skin is loose and dry. As much as 400 grams in weight has been lost in a period of twelve hours. Convulsions have occurred in a number of cases.

Diarrhea is almost always present. The stools are green, slimy, numbering eight to twenty daily; and due to irritation, the buttocks become excoriated.

The fever is often high—103 to 105° rectally—but not always, for a number of acute cases showed an elevation of only one or two degrees. The leucocyte count varies from 10 to 40,000, with a high percentage of polymorphonuclears.

Jeans and Floyd¹ describe an appearance of intoxication characterized by drowsiness or stupor and a grayish pallor which appear simultaneously with the fever or immediately following it.

Periods of syncope, which may prove fatal, appear more frequently in sub-acute cases than in acute ones. The child appears to be in fair condition. An attack is usually short. Marked paleness ensues, the lips are cyanotic, and the breathing is labored.

Upon examination of the ears, even the experienced otologist may have difficulty in finding definite pathology. Proper light, a very small speculum, and able assistance are absolutely necessary. The red and bulging drumhead, which leaves little doubt as to the presence of infection in the tympanum is not always present. First of all, it must be determined whether or not the tympanic membrane is normal. The luster of the membrane may be gone, it may appear dirty white or gray, without apparent bulging, or may be a "parched" or "baked" white, gray or a dirty yellow. The long process may appear shortened, and small blebs may appear on the drum membrane.

In very young infants, because of the dipping of the superior canal wall, to determine the presence of bulging in the posterior superior wall is exceedingly difficult. In many cases, the trauma caused by careless examination makes the canal wall appear reddened and bulged. For this reason, the first examination should be made with the greatest of care.

No case of otitis media which did not present either some change in the drumhead or some bulging of the canal wall has been seen in this series. True, in some instances of long duration resolution may have taken place in the tympanum, and the drumhead when examined may have appeared normal, but with infection in the



PLATE 6. Marked dehydration of an infant with acute suppurative otitis media bilateral.

mastoid there has been at some time bulging of the posterior superior canal wall. Rarely has swelling over the antrum been found in acute mastoiditis. Subperiosteal abscesses were seen only in two; and these, in infants over one year of age. In fourteen cases, spontaneous rupture occurred either in one or in both of the drum-heads. In all but eleven, the otitis was bilateral. In some, at the time of the first examination, only one ear was infected; but usually both ears were soon involved. Frequently more than one examination was necessary before we could arrive at any definite conclusions.

The examination of the nose and throat in these patients was extremely interesting. A diagnosis of paranasal sinus disease was made in one hundred and forty. Usually, in the ethmoidal regions, pus was seen. The nasopharynx was invariably reddened, and pus appeared also on the posterior pharyngeal wall. X-ray pictures of sinuses in infants are of little value. Even though the maxillary sinuses appear to be clear, pus may be found on aspiration. On the other hand, because the soft bone of the infant is apt to cast a shadow, the maxillary sinuses may appear to be blurred, though on aspiration, they are found to be negative. In many, the adenoids were infected and bathed in pus. In the younger infants, the tonsils were often infected—usually, chronically; rarely, acutely. The following case is fairly typical of an acute mastoiditis.

Case 1. Baby R., aged nine months, was admitted to the pediatric ward because of malnutrition, with a diagnosis of hypothrepsia. He had been running a septic temperature, at times as high as 104° . This was accompanied by a marked loss of weight and by diarrhea, from ten to eighteen stools daily, greenish and very foul. He refused most of his feedings, and often vomited. The general physical examination was negative, the urine was negative, and the white blood count was 25,000. Each drum head was red and bulging, and each posterior superior wall was definitely swollen. The posterior pharyngeal wall was reddened and much pus was found in each side of the nose. Myringotomy was done on each side, and thick, yellow pus under pressure was obtained. Following this procedure the symptoms not only persisted, but, in fact became more aggravated. Better drainage seemed advisable, and a bilateral mastoidectomy was done. The findings at the time of operation revealed pus under pressure in each mastoid antrum, and also some necrosis of each cortex. Hemolytic streptococci grew from the cultures taken at the time of operation. Almost immediately following the operation the symptoms subsided. Chart 1 shows the temperature and weight curves for the above case.

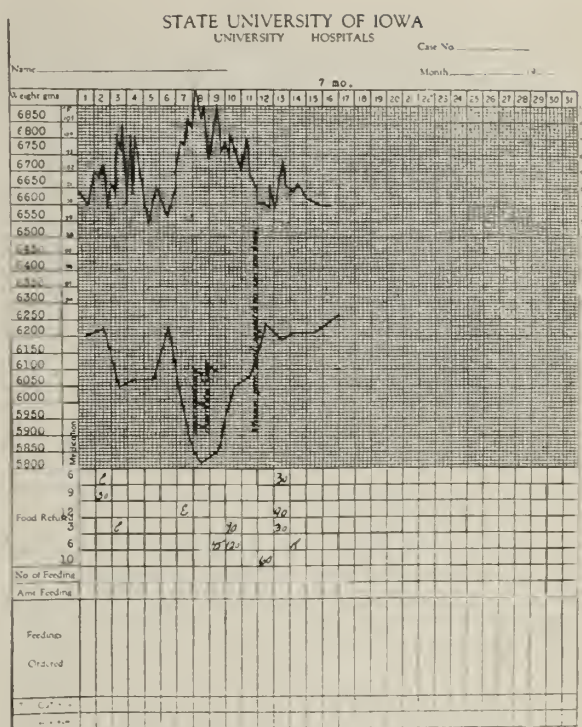


CHART 1. Temperature and weight curves, Case 1.

A few cases of so-called subacute mastoiditis without apparent infection of the middle ear were seen during the last year. Such cases indicate to us that although infection may have subsided in the tympanum, it is still present in the mastoid.

In the fall of 1926, we noticed several infants with athrepsia who seemed to be improving slowly in spite of changes in feeding. At intervals of three days to one week, a slight elevation of temperature, usually not higher than 101° , occurred simultaneously with diarrhea. The stools ranged from four to six daily, and during these periods occasionally refusals of food were charted. Instead of the marked loss in weight, typical of acute mastoiditis, a rather steady gain in weight was noted without dehydration. The urine examination was negative. The white count was slightly elevated. As to the cause of these symptoms, no satisfactory explanation could be found; but we had little doubt that some infection of the ear, nose or throat should be held responsible. At myringotomy, a dry tap was usually obtained; but on paracentesis of the posterior superior canal wall, pus was found.

Case 2. R. P., aged fourteen months, had an entrance complaint of inability to gain in weight. Food refusals were frequent, and there were occasional periods of diarrhea. The general physical examination revealed nothing except that the baby was emaciated. It was thought that the infant had been

receiving a fairly rational feeding and that there must be some other cause for the diarrhea, as well as for the state of nutrition, the mild fever, the drowsiness, and the loss of weight. The infant was seen by the otolaryngological service. Much pus was discovered in each ethmoidal region. The posterior pharyngeal wall was slightly reddened, and the tonsils were large and chronically infected. The anterior cervical glands were just palpable. Both ears revealed reddened drumheads. The posterior canal wall left appeared to be bulging, but the right was questionable. Myringotomy, bilateral, was done but no fluid was obtained. The white blood count at this time was 12,800; polymorphonuclears, 57 per cent. The intradermal test for tuberculosis and the Wassermann reaction were both negative. Because of the bulging of the posterior superior canal wall and because of the reddened drumheads, a bilateral mastoidectomy was done. The left mastoid antrum was filled with granulation tissue and pus, and there were two or three infected cells in the tip. The same condition was present on the right side, but not to such a marked degree. The following day, a slight reaction took place. The temperature went as high as 104° , and the child showed scarcely any gain in weight. The temperature gradually became normal, the diarrhea ceased, and the food refusal disappeared. Chart 2 shows the weight and temperature curves.

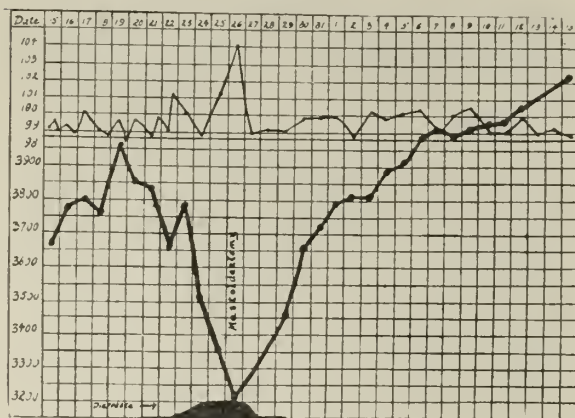


CHART 2.

Sinus disease may simulate mastoiditis in infants. Jeans and Floyd⁴ have shown that much the same clinical picture may be produced by both. In acute paranasal sinus disease, the onset is usually more insidious and the symptoms are less pronounced. In acute otitis media or acute mastoiditis, recovery usually comes immediately after drainage; in acute paranasal sinus disease, it is generally more gradual. To illustrate this point, Jeans⁴ cites the following case: "A patient, '3810', had been thriving. At the age of one month, without apparent cause, its weight became stationary and then, coincident with the

onset of diarrhea, decreased abruptly, the patient losing 450 grams in five days' time. The acute illness was marked by the appearance of intoxication, the features becoming pinched; and the color, ashen. Drowsiness and lethargy were marked. Dehydration was such that considerable amounts of fluid were given parenterally in an attempt to prevent death. As many as nineteen stools were observed in one day. At the height of his illness, he was found to have acute paranasal sinus disease. Treatment was directed to the sinuses, and from that day the patient's condition improved. The diarrhea became less and finally ceased when free drainage was obtained."

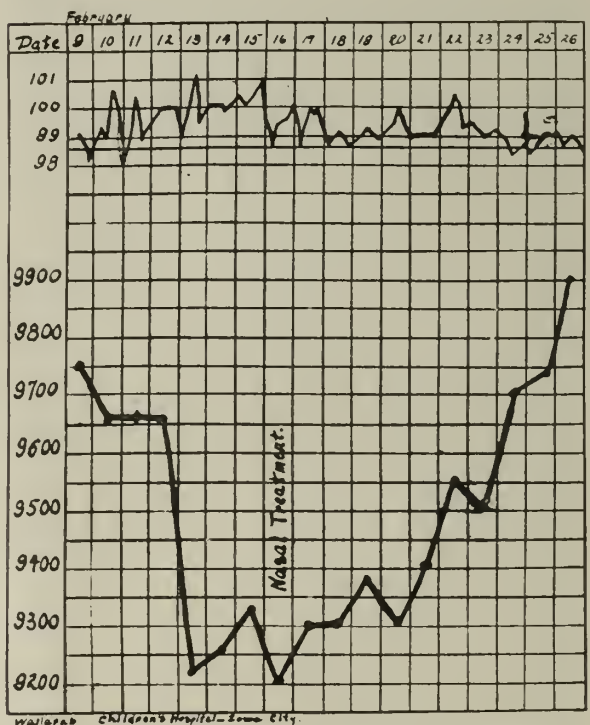


CHART 3. Temperature and weight curves of an infant with acute paranasal sinus disease before and after treatment. (Jeans).

Two infants with similar clinical pictures died, and at necropsy the findings were negative for the presence of paranasal sinus disease. In one, the findings were negative, except for thick pus in the right maxillary sinus.

Acute mastoiditis may be complicated by acute paranasal sinus disease. Attention is called to this fact, because following myringotomy or mastoidectomy some of our cases failed to respond. The symptoms decreased in severity, but they did not disappear entirely until treatment of the sinuses was instituted. This is best illustrated by Case 3.

Case 3. Baby M., fourteen months of age, on September 11, 1926, became very ill. Her fever was high and convulsions were frequent. There were from fifteen to twenty loose, watery stools daily, a marked loss in weight, some dehydration, and general refusals of food. A lumbar puncture was done and the fluid was normal. There was a marked nasal discharge. The child appeared to be very drowsy. On physical examination, little was found except that she was extremely spastic, and markedly dehydrated, and that her hands showed a fine tremor. The white count was 22,000, with 80 per cent polymorphonuclears. The otolaryngologist found the nose full of pus, the posterior pharyngeal wall reddened and the faucial tonsils very large and subacutely infected. The right drumhead appeared reddened and the left lusterless, but there was no bulging, only a slight sagging of the posterior superior canal walls. Two days later, however, there appeared a definite bulging of each posterior superior canal wall. A myringotomy was done on each side. Pus under pressure was obtained from the left, but nothing from the right. Paracentesis of the right posterior superior wall revealed frank pus in the antrum. A bilateral mastoidectomy was done and much pus was found in each antrum. The eells in the tip were broken down, and a few cells over the sinus on each side were filled with pus. The granulations found in each antrum indicated that the infection had probably been present for some time. A marked reaction followed the operation. The temperature went as high as 105°, and was accompanied by a continued loss in weight. The diarrhea and dehydration, although diminished, still persisted. Evidently, there was still some source of infection. The nose was reexamined, and again was found to be full of pus. An examination of the sinuses under anesthesia was advised. This was done under ehloroform oxygen anesthesia, and the report was as follows: "Much pus in each ethmoidal region. A very large bunch of infected adenoids was found in the nasopharynx. Thick, ropy pus was aspirated from each maxillary sinus." Through an opening made into each antrum by means of a rasp, the sinuses were washed out with a warm boric solution, and this was followed by the instillation of a 5 per cent argyrol solution. Immediately the weight increased, the temperature approached normal, and the stools were markedly improved. Chart 4 illustrates the temperature and weight curves.

Occasionally cases of faulty feeding clinically simulate mastoiditis. Two patients, four months of age, entered the department of pediatrics in September and October, 1926. They were sent to the hospital on account of failure to gain. Both presented a clinical picture very much like that seen in chronic mastoiditis. Baby B. was put on a proper feeding formula and showed immediately a gain in weight. The diarrhea ceased and the temperature eventually became normal.

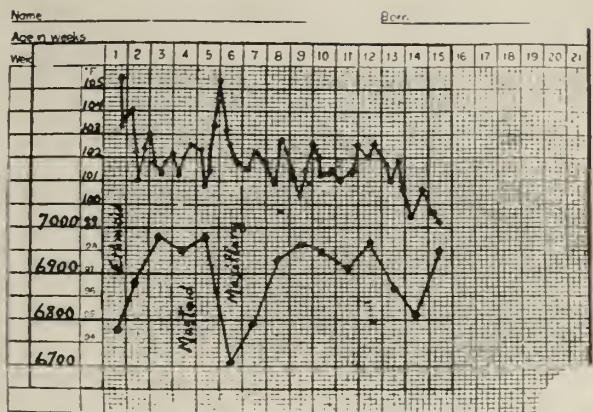


CHART 4. Temperature and weight curves of Case 3.

The other baby failed to respond to any change in formula. Since the otolaryngologic report revealed red and bulging drumheads, a bilateral myringotomy was done. Following this, the temperature gradually became normal, the diarrhea ceased, and the weight increased to a marked degree.

In the past two years three babies on the pediatric service, who apparently were doing reasonably well, very unexpectedly died. At necropsy the only lesion found was mastoiditis, which had been entirely unsuspected. These and others collected on the pediatric service since that time demonstrate that mastoiditis may be present in fairly marked degree without giving enough external or symptomatic evidence of its presence to cause an otologic consultation to be requested.

The prognosis is dependent upon certain factors:

1. The duration of the infection. The earlier the treatment is instituted, the better the prognosis.
2. The presence of other systemic complications. In the presence of septicemia, pneumonia, etc., the prognosis is grave. Of this series, three who died were shown at autopsy to have lateral sinus thromboses.
3. The virulence of the organism. At various times during the year, the infections appear to be unusually severe; and many die in spite of all that one can do. At these times, hemolytic and encapsulated streptococci are most always prevalent.

Once a diagnosis of otitis media or mastoiditis has been made, the treatment depends largely upon the constitutional symptoms present. In the cases comprising this series, constitutional disturbances of varying degree have always been present.

Conservatism is practiced at all times, especially if complications are present. Bulging of

the drumhead with or without swelling of the posterior superior canal wall indicates the necessity of a myringotomy. Rapid closing of the opening in the drumhead may require repeated myringotomies. Occasionally an infant is in such poor condition that the best possible drainage must be secured immediately. It may be necessary to wait until the pediatricist can get him into the best condition possible by the administration of fluids, etc. A myringotomy may be all that should be done. Frequently more adequate drainage is needed.

If mastoidectomy is necessary, either local or general anesthesia may be used. Chloroform oxygen has proved satisfactory as a general anesthetic. This anesthesia can be produced in a few moments, while the field is being prepared. By the time the dressings are applied, the patient is awake. Since he is carried under light anesthesia, he awakens at intervals during the operation, and the oxygen keeps him in good pink color throughout the procedure. Little mucus or saliva is secreted, and there is no injury to the respiratory tract. There is no gastric disturbance and he is given liquids as soon as he is returned to his room.

In hospital practice, after operation, the infants are immediately returned to the pediatric ward, where the pediatrician can give fluids and supportive treatment more proficiently than we. Since considerable effort is necessary to induce the child to take the entire feedings, excellent nursing is indispensable.

The mastoid operation, once decided upon, should be done completely and rapidly. Five minutes for each side should be the extreme limit. One child of this series, critically ill, was operated upon as rapidly as possible. Despite the intervention, the child died. At necropsy the examination revealed one large mastoid cell containing pus. This may not have been the responsible cause, but it illustrates the necessity of a thorough operation.

Paranasal sinus disease is associated with the ear condition in almost every case. The sinuses, are therefore, treated from the beginning. Very conservative methods are used at first; such as, an ephedrine hydrochloride, 2 per cent, followed in five minutes by 5 per cent argyrol dropped into each side of the nose. In some instances, even in babies a few months old, it has been necessary to wash out the maxillary sinuses before the symptoms have subsided.

CONCLUSIONS

1. The otologist and pediatricist should work together.

2. Mastoiditis in infants is not infrequent and may produce a syndrome of gastro-intestinal disturbances.

3. Acute mastoiditis in infants is rarely an otologic problem alone.

4. All of the cases in this series have shown some pathology of the drum membrane or some sagging of the posterior superior canal wall.

5. Chronic mastoiditis may occur without apparent evidence of trouble in the middle ear.

6. Paranasal sinus disease may produce the same systemic disturbance as is found in acute mastoiditis, but in a less degree.

7. Paranasal sinus infection almost invariably coexists with mastoiditis in infants.

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CASE REPORT

LARGE OVARIAN CYST

F. R. SPARKS, M.D., F.A.C.S., Waverly

Patient—Female, married, American housewife, age forty-nine years.

Past History—Has had nearly all the diseases of childhood. Influenza in 1918. Nothing else of importance.

Family History—Negative.

Menstrual History—Menses began at the age of eleven. Regular with occasional dysmenorrhea. Last menstruation seven days ago. She is the mother of nine children living and well. Has had three miscarriages, cause unknown. No children dead.

Present Illness—Since March, 1928, patient has noticed that her abdomen was gradually getting larger, causing sharp pains when stooping. Urination has also become more frequent, but with no

smarting or burning. Patient becomes tired when on her feet for a few hours. No pain in the back, no headache, no dizziness, no temperature, no nausea. At times heart action is rapid accompanied by some shortness of breath. No digestive disturbances, bowels regular, appetite is good. Sleeps well. Presents herself to physician because of the extremely large abdomen.

Examination—Female, about five feet seven inches tall. Weighing 198 pounds. Head, eyes, nose, throat, ears, negative. No evidence of thyroid enlargement. Chest examination is negative. Abdomen extremely large, completely filled with fluid, in fact the skin is so tight that you feel that it may burst at any moment. Vaginal examination—slight leukorrhea, moderate laceration of perineum. Everything else is obscured by the large amount of fluid in the abdomen. Extremities—negative.

Diagnosis - Ovarian cyst.

Patient admitted to hospital, June 29, 1923. Temperature 98.8. Pulse 80. Respiration 20. Put to bed. SS enema given, good results. Light diet for supper.

At 10 o'clock the next morning, on June 30th, patient taken to operating room. A right rectus incision was made (under local anesthesia) about two and one-half inches long and a gallon and one-half of fluid was drained off. The cystic sac was sutured and peritoneum was sutured, patient returned to bed.

June 31st, patient's condition good. Temperature 98.6. Pulse 80. Respiration 18. Free defecation. Rested well the night of June 30th and night of July 1st.

July 2nd, after administration morphine gr. $\frac{1}{4}$ and atrophine gr. $\frac{1}{100}$ at 9:30 a. m. Taken to operating room at 10:30 a. m. and under gas and ether anesthesia the former incision was enlarged to about seven inches in length.

The cyst was punctured with trochar and a great amount of fluid withdrawn. It proved to be a simple cyst without any definite adhesions and a well defined pedicle. After draining off more of the fluid rather slowly the cyst was removed entirely. The pedicle was tied with a No. 2 catgut and the stump was then inverted with an overcasting stitch.

This cyst was from the left ovary. There was a cyst on the right ovary, the size of a lemon, which was removed after tying off with No. 2 plain catgut. Peritoneum was then sutured with No. 1 plain catgut, retention, silk-worm sutures inserted. Facia closed with No. 2 chromic catgut and the skin closed with clips. Patient was put to bed at 11:30. The operation lasting thirty-five

minutes. Pulse 120. Respiration 28. Condition apparently good. At 1 o'clock p. m. on same day patient was conscious. A slight emesis of yellowish fluid. Proctoclysis normal saline was started.

At 3 o'clock of same day patient went into shock. Pulse 168, weak and irregular. She was practically sitting up in bed and had been since her operation. Adrenalin, camphor, digitan and brandy were administered, but without avail. At 4:12 the same afternoon patient expired, with a typical picture of splanchnic paralysis. She was pale, cold and clammy, and gave a picture resembling hemorrhage.

COMMENT

I am reporting this case to emphasize the fact that there is such a thing as splanchnic paralysis. Also to emphasize the fact that it is dangerous to remove a large ovarian cyst at once. This cyst including the contents and the sac, weighed fifty-eight pounds. Had I drained her abdomen again Monday morning and again possibly Wednesday and again possibly Friday and the following Monday removed the cyst, my patient would be living today.

There is one and only one objection to draining a large ovarian cyst and that is the possibility of disseminating cancer cells through the peritoneum. It seems to me, however, that the danger is far less than the danger of splanchnic paralysis, following the removal in toto.

Since this case I have looked up in our hospital three other cases, one not in my services, but in which the large ovarian cyst was drained by suturing in a rubber tube, the same as you would drain an empyema, every day some of this fluid was withdrawn for about ten days, then the cyst was removed. This was five years ago and the patient can tell you about it today.

Another case of a large ovarian cyst where the fluid was drained by a trochar puncture, then was sutured and drained again in three or four days. This was done several times and in about ten days the cyst was removed. This was four years ago and this patient can tell you about it today.

Another case of a large ovarian cyst, weighing approximately forty pounds was removed in toto, without any drainage whatsoever. This patient lived three days and died of splanchnic paralysis.

I am reporting these cases because of the adverse criticism, which I received for draining the cyst, even just the once. However, should I have another opportunity will certainly put in a tube and drain off some of the fluid every day, for several days, before removing the cyst.

STATE HEALTH COMMISSIONER'S PAGE



Henry Albert, M. D.



TYPHOID FEVER SPREAD BY MILK

On Saturday, August 10, 1929, the epidemiologist of the Department was called to Greenfield, Adair county, to assist the health officer in the control of an outbreak of typhoid fever. Two subsequent visits were made.

It was found that there were thirty-seven cases, all clinically typhoid, twelve of which had had positive Widal's. There were two major milk supplies in the city, one delivering 340-350 quarts of milk, and the other 140-150 quarts daily. All of the cases were on the major supply. Suspicion was at once directed to this supply and the dairy was caused to discontinue the selling of milk pending further investigation.

During the survey it was found that the cows producing milk sold from this dairy were exposed to contamination from a ditch running through the pasture which conveyed raw sewage. There was a question whether this was the source of contamination of the milk or whether there was a carrier at the dairy. On Tuesday, August 20th, the laboratory reported that a man employed by the dairy was a carrier.

The accompanying chart shows the dates of onset of the thirty-seven cases. The usual occurrence of a milk-borne outbreak is explosive in nature, nearly all of the cases becoming ill on or near the same date. Inspection of this chart will show that the present outbreak was not of this kind but was of long duration, denoting contamination of the milk over a period of time.

RECOMMENDATIONS MADE TO CITY COUNCIL

As a result of investigations and findings, at a meeting of the city council and board of health, the following recommendations were made:

1. The immediate inoculation of other members of families where there are cases of typhoid fever.

2. That the City Department of Health declare an emergency and because of such emergency pass a rule prohibiting the sale of any milk not pasteurized.

3. That the city council pass an ordinance prohibiting the sale of any milk not pasteurized.

4. That the tanks of the present sewers be cleaned out and put in operable condition.

5. That all privies be made fly-tight.

6. That the present public water supply from the south and southeast wells, so-called, be chlorinated continuously.

7. That the city install a sewerage system

and proper disposal plant and that it compel all owners of houses within 200 feet of such system to connect with the system. (This is in accordance with the state code.)

8. That the sale of milk from cows pastured where they may come in contact with sewage be prohibited.

These recommendations are worthy of thought by other communities with the idea of preventing an outbreak of similar nature.

CONDITIONS IMPOSED

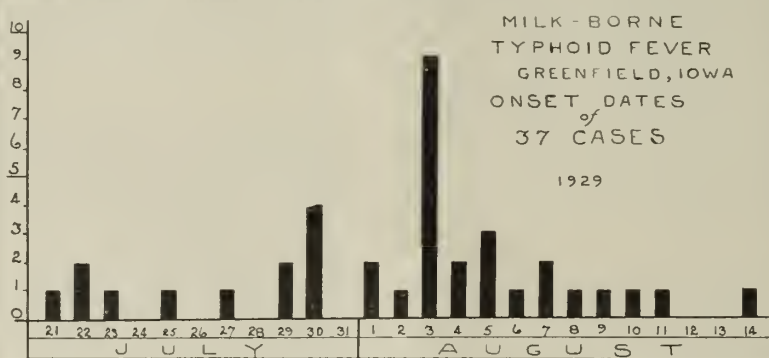
Five conditions were imposed upon the owner of this dairy:

1. That he dispense entirely with the services of the indicated carrier.

2. That he clean up his cows.

3. That he abandon the use in connection with the production of milk, the water from a shallow well on his premises.

4. That he move a manure pile from proximity to his dairy barn.



5. That he no longer use the field through which the sewage runs for pasturing his cows.

When the conditions have been met, the sale of milk from this dairy may again be permitted.

A DEATH FROM RABIES

The second death from rabies in humans within about a year was reported from Ida Grove, Ida county, on Wednesday, August 7, 1929. The patient, P. W., was two years nine months old. His home was in Newton, Jasper county, and it was in that city that he was bitten.

Dog Bites Child—On June 25, 1929, while the child was playing in a neighbor's yard, he was bitten and severely mauled by the neighbor's dog. The dog bit the child about the head and face. The scalp and right cheek were severely lacerated, and the right ear was torn completely from the head with the exception of the lower third.

Child Treated—A doctor was called and was in attendance within fifteen minutes. All wounds were disinfected and dressed. Anti-rabic treatment was started the next day. The fourteen-dose treatment was used and the last dose was given on July 9. On June 29, 1929, the dog died. The head was sent to the laboratory for examination and reported positive for rabies.

Symptoms Develop—On August 1, 1929, the child and his mother went to Ida Grove to visit his grandparents. At that time he was apparently well. On Monday, August 5, nervous twitchings were noticed together with some difficulty in taking water. Fever and prostration were present.

On August 6, the symptoms became worse. Water was immediately regurgitated and mucus collected in the mouth and throat. Later gastric dilatation occurred, spasms became more violent, there was some priapism. Temperature rose to 105 degrees. Death ensued apparently from myocardial failure.

Choice of Method of Treatment—Attention is called to the discrimination which should be exercised as to the method of treatment to be employed in selected cases. If the bite of a rabid or suspected rabid dog was on the head or neck then the 21-dose treatment should be employed. If on the extremities or body then the Semple 14-dose treatment may be used. Of course all lesions should be cauterized at once. Fuming nitric acid is recommended for this purpose.

ITINERANT VENDOR OF DRUGS CONVICTED

Our newly appointed law enforcement inspector, Herman Carlson, reported that early in July he filed information against one A. J. Koob, address 816 W. Ninth street, Cedar Rapids, Iowa, charging him with violating the medical practice

acts. The party pleaded guilty to a less serious charge—that of being an itinerant vendor of drugs without a state license. The case was tried before G. W. Burnham, justice of the peace, Vinton, Iowa, the town where Mr. Koob was found selling his wares.

Subject was fined \$10 or ten days in jail. In default of the fine he was placed in the county jail at Vinton, Iowa.

DIVISION OF PREVENTABLE DISEASES CREATED

The appointment of Howard A. Lanpher, formerly epidemiologist of the Connecticut State Department of Health, as epidemiologist in the Iowa Department of Health has lead to the creation of a Division of Preventable Diseases.

The "field" functions of this division are enumerated as follows:

1. The making of investigations and surveys in respect to the causes of diseases and epidemics and the control of the same.

This includes outbreaks of disease on milk farms; the investigation of sanitary conditions as they may be related to disease conditions; the investigation of rabies in animals with reference to its relation to human beings; the taking of cultures from nose and throat; the collection of samples of blood, feces, urine or other body fluids for examination by the laboratory and advice as to vaccination and inoculation.

2. Consultation, upon request, with local health officers as to the diagnosis of communicable diseases and the method of procedure under certain conditions.

3. The establishment of quarantine and release from same in the absence of the local health officer.

4. The giving of lectures to various groups of people, professional and lay, upon the prevention of disease, including personal hygiene.

5. Attendance at meetings of medical societies, public health associations, etc.

6. Demonstrations of protection against disease. This includes the demonstration of the Schick test to determine susceptibility to diphtheria, inoculation against typhoid and vaccination against smallpox.

Dr. Lanpher's services may be obtained by any community upon application to the State Department of Health through the local health officer. There will be no charge to the community for this service.

It is earnestly desired by this Department that health officers and other health authorities report all cases of communicable diseases to this division promptly as they occur for it is only by knowing where cases of disease exist that efforts at control can be made.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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Vol. XIX September, 1929 No. 9

The Cardio-Vascular System

IV. EXTRA-CARDIAC LESIONS IN HYPERTENSION

The most plausible explanation for the existence of abnormally high blood-pressure is that it is a compensatory condition. An abnormal narrowing of the arterial blood bed forces the heart to raise the blood-pressure in order that the individual cell may be sufficiently nourished. This leads to cardiac hypertrophy and final myocardial failure. The evidence available at the present time suggests that the anatomic changes found in this disease are due to the increased tension. These changes are well known through the work of Gull and Sutton,¹ Jores,² Fahr,³ Fishberg and others.⁴ The lesions are of two strikingly different types: The most conspicuous are hypertrophic in character and consist of a thickening of the middle coats of the smaller arterial twigs leading to a progressive narrowing and a final obliteration of the lumen. The other type is diametrically opposite and consists of atrophy of the arterial walls, distention of the arterioles and final rupture of the vessels during stress. The effect upon the parenchyma supplied by the affected arterial twigs is also widely different. Where the proliferative changes dominate, the parenchymatous cells undergo atrophy and necrobiosis and are finally displaced by the harder connective tissue, giving rise to the sclerotic

white kidney or the shrunken white skin. Where the atrophic changes predominate, the parenchymatous cells undergo hypertrophy. The organ involved looks red and full of blood; the "red hypertension" of Volhard.⁵ When hypertrophic and atrophic changes occur in the same organ, the final result is the red contracted kidney.

The functional alterations present in hypertension are directly dependent upon the anatomic lesions present. Because the lesions are distributed over the entire body the changes found are quite general. Since the sclerotic changes predominate the general effect is a curtailment of function, manifested by an oncoming senility. However, it frequently happens that the individual experiences a season of renewed youth due to an increased vascularity of his brain brought by atrophic changes in his cerebral arteries. Hypertrophic vascular changes occur all over the body and are of varying intensity. Where these changes are most conspicuous, the evidence of deficiency becomes most striking, thus when the gastrointestinal tract is most involved, ill-defined dyspeptic symptoms come to the foreground clinically. If the kidneys bear the brunt of the attack, the symptoms of chronic interstitial nephritis attracts the clinician's attention; and, when the pancreas is most involved the symptoms of diabetes mellitus develop. Thus diabetes mellitus of the old and chronic interstitial nephritis are as a rule phases or arterial hypertension.

The end results, then, of a fibrosing type of hypertension, is a precocious senility which may at any time be terminated wholly or in part by the rupture of one or more of the thin distended arteries.

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4. Fishberg, A. M.: Anatomic Findings in Essential Hypertension, Arch. Int. Med., 1925, 35, 652-668.
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HEALTH FADS

Health fads have from the time of the Greek "Oracle" and the Roman "Bath" attracted the widespread attention of all people. Today fads in medical matters are as common as ever—in fact, it would seem that the public is eagerly waiting for a Hollywood "scientist" to point the way to health. Any fad in diet or exercise seems as good "copy" as a murder or a love-nest scandal. Only a few weeks ago, an actress an-

nounced a reduction diet consisting of a most unscientific and most unbalanced series of menus extending over eighteen days. The press, quick to sense the news value of such a program, featured the story in every edition. Overnight the obese of both sexes throughout the country became converts, and the fad began. When and where will it end? For many, it will never end, since thousands of these unfortunate "faddists" will have suffered irreparable damage to vital organs.

A few months ago, the reduction diet then popular was augmented and insured by the use of thyroid substance "in small amounts", and today we are harvesting the crop of activated goiter and chronically damaged hearts. It is not the purpose of the article, however, to point the finger of criticism towards the efforts of the obese to return to a more esthetic and healthful contour, but rather to decry the foolish and harmful extremes to which these efforts are carried by the ill-advised faddist. The burning of body tissues is not to be undertaken lightly, and never without a thorough appreciation of human physiology and dietary requirement. This places all such programming in the hands of dietitians or physicians of special training.

Scientific research has indicated that simple goiter is due to a deficiency in available iodine, and that the administration of this drug is useful in preventing the condition. This fact promulgated in an extensive advertising campaign inaugurating the sale of iodized salt was of much benefit to the manufacturers of this product, and of some benefit possibly to the children in the goiter belts. But what was the effect upon many cases of quiescent, adenomatous goiter in adults? In every clinic where thyroid diseases are commonly seen, the effect of this fad has been felt. Inoffensive goiters have become active, and in many instances, relief has only been obtained through surgical intervention. Is a stable article of food the proper avenue for the administration of this drug? In fact, should the drug be furnished to any group without selection or restriction? The subject is certainly open to debate.

Only a few years ago, an energetic patent medicine concern, capitalizing on the adoration of the American public for the notorious, sold thousands of pounds of iron in the form of pills upon testimonials secured from those individuals who were successful in obtaining front page newspaper distinction. The public became iron-hungry to the extent that a fad for iron was inaugurated. A slogan "Have you had your iron today?" became a by-word. The Western grape-growers,

alert to the situation, placed raisins in a convenient package, and profiting by the fad, sold thousands of pounds of their product daily. At the height of the fad, one was so overcome by propaganda that death from iron starvation seemed to lurk just around the corner. What has been the aftermath, however, of this fad? Thousands of potential diabetics are believed to have been rendered active diabetics by the excess of grape sugar ingested, and the gastro-enterologists are still attempting to secure relief for that host of individuals who developed gastro-intestinal disease—notably enterocolitis. Far better, I believe, was the sulphur, molasses and nail rust of our grandmothers' medicine chest, since at least the potion lacked the attractiveness necessary to secure widespread popularity.

In the Journal of the American Medical Association dated August 3, page 402, is published an appeal to physicians throughout the country to supply an investigating committee with information as to any harmful occurrences experienced in daily practice due to vibratory and other types of passive exercise machines now widely advertised to the laity. This committee reports that they have on file one case of severe hemorrhage of the bladder resulting from five minutes' application of an exercise machine. Other citations of serious injuries can be found in current literature. Fortunately for the public, these machines are not apt to prove a menace to any considerable per cent of our population, since the price of the apparatus required will prove a deterrent.

A few years ago the attention of the medical profession was directed to the beneficial effects derived from the quartz mercury vapor lamp in lieu of unfiltered sunshine. It was felt that in this apparatus lay great possibilities for the treatment of pulmonary tuberculosis, certain skin diseases, and rachitic conditions in children. Clever advertising based upon statements from the overenthusiastic soon widened the sphere of usefulness of this type of therapy, until it became a panacea for all ailments. Is it surprising, then, that the laity having been informed of this wonderful modality soon began purchasing the machines for individual use, and the market became flooded with ultra-violet, near ultra-violet, and merely blue lights for home use! Those individuals unable to procure this apparatus because of its cost, and those manufacturers who had sun-suits rather than lamps for sale, have diverted attention, at least during the summer months, from this apparatus to the more natural method of obtaining these healthful rays directly from expos-

(Continued on page 421)

Medical Library Serves Physicians

As a great and growing institution which was created primarily for the use of Iowa physicians, the State Medical Library merits greater attention and more use on the part of State Society members. The library has been fostered and aided by the Iowa State Medical Society from its inception; and the existence of an active state society committee on the Medical Library further indicates how truly the library is a complement of organized medicine in this state.

Three members of our society have made outstanding contributions to the library: Dr. D. S. Fairchild, Dr. Gershom H. Hill, and Dr. Walter L. Bierring. The late Dr. Hill willed to the state library his large and valuable private collection of scientific books, raising the total volumes to 10,000. Dr. Fairchild and Dr. Bierring by long continued interest and activities in behalf of the library, as well as frequent gifts, have fathered this child of scientific medicine.

The fortunate fact that such a man as state librarian Johnson Brigham has had a personal interest in the medical section has increased its size, its scope, and its usefulness. Feeling that few physicians fully realize what the library offers them, the newly appointed librarian, Dr. Jeannette Dean-Throckmorton, was asked to list the various services which are available to readers of the Journal. They are:

1. *Traveling Library*: Any volume in the medical section will be sent upon request, the borrower paying only parcel post charges.
2. *Magazine Service*: Upon request from a physician a list of magazines will be sent from which he may make selections for temporary use.
3. *Bibliographies* will be compiled.
4. *Translations* from foreign language journals will be furnished.
5. *The Surgeon Generals Library and the Crerar Library of Chicago*, the two largest in the United States, are made available to members of the Iowa State Medical Society through another service offered by the State Medical Library.
6. *Packet Service*, topically arranged collections of clippings, reprints and specially collected

material, is being developed to fill the demand for information on such subjects as may not be available in book or magazine sources.

All this means that any physician in Iowa has at his door the complete resources and the various services of the State Medical Library. Mr. Brigham, who has made himself widely known and beloved during his thirty-one efficient years as head of all the state libraries, sometime ago adapted to the medical section, the traveling library idea. Since that time the growth and increased utility have been most marked; and now Mr. Brigham announces, in the appointment of

Dr. Throckmorton as medical librarian, another forward step.

"Following the marriage of Miss Helen McMahon, with her consequent resignation as the state medical librarian, state librarian Brigham was fortunate in finding among the applicants for the vacant position Dr. Jeannette Dean-Throckmorton, well and favorably known to the medical profession. Dr. Throckmorton entered on her duties as medical librarian June 1. Her wide

range of knowledge and experience eminently fitting her for a career of usefulness in this field.

"Dr. Jeannette Dean-Throckmorton graduated from Simpson College, then from Iowa Wesleyan University with an A.M. degree; and from Keokuk Medical College with an M.D. degree. In the examination given by the Iowa State Board of Medical Examiners for license to practice in Iowa, she received the highest grade ever given by that board. Entering the senior year of the State University of Nebraska medical department, she received the M.D. degree from that institution.

"During her medical practice in Chariton, she took an active part in infant and maternal welfare; serving ten years as a judge in the Better Babies Conference held at the Iowa State Fair; was for several years state chairman of the Committee on Social Education of the Federated Womens' Clubs. She was likewise chairman of the Committee of Health and Public Instruction of the Iowa State Medical Society.

FREE SERVICES OF THE MEDICAL LIBRARY

1. 10,000 volumes are as near as your mail box (traveling library).
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3. Bibliographies prepared.
4. Translations from foreign journals.
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"In 1919 she left the practice of medicine to enter the United States Public Health Service, Bureau of Venereal Disease Control, cooperating with the Iowa State Board of Health. In this service for six years, she traveled over Iowa and was invited by State Boards of Health and college officials of other states to lecture to girls and women on health problems. In 1919 she was sent as a representative of the Iowa State Board of Health to an International Conference of Public Health officials in New York City, and the following year was sent to Belgium as representative of the United States Public Health Service. While in Brussels she read a paper on Public Health that was well received, and later was published in a London paper. She was honored by being made a vice-president of the Royal Institute of Public Health (London).

"In 1922, Dr. Throckmorton went abroad for study and pleasure. In 1925 she again went abroad with a party of physicians, visiting various hospitals of Europe and meeting the masterminds in medical science.

"The doctor had post graduate work in psychology in Columbia University, New York City, and was a member of the Writers Club of that institution. While doing similar graduate work in Chicago University she did research work which is to be incorporated in a book being written by one of the professors. She was married to Dr. Charles N. Dean of Summer, Illinois, in 1928, who was stricken as they left the church, dying ten days later. She was made a member of the American College of Physicians in 1921, and was president of the State Society of Iowa Medical Women in 1918."

HEALTH FADS

(Continued from page 419)

ure to the sun. Scientists are agreed, however, that under certain conditions even the sun's rays may be injurious. They further point out that the much valued ultra-violet ray is of itself not as healthful as when combined with the red rays at the other end of the spectrum. Read in the recent article of Sheard and Higgins¹ of the comparative results obtained in growth experiments with various light filters and how they obtained healthy chicks in "completely darkened pens.

Fads whether vital as those affecting health and life or less vital as in dress and manners, are short-lived and self-destructive, a factor of supreme importance and one offering the greatest hope in their consideration.

REFERENCE

1. The Effects of Selective Solar Irradiation on the Growth and Development of Chicks—Charles Sheard & George M. Higgins, Amer. Journ. of Physiol., 1928, vol. lxxxv, p. 290.

FEDERAL COURT RULES ON DRUG LABELS

A far reaching decision on the labeling of medicinal preparations has been handed down by the U. S. Court of Appeals for the Ninth Circuit, say the officials of the Food, Drug and Insecticide Administration, of the United States Department of Agriculture.

According to the decision of the Court of Appeals, the use on labels of medicinal preparations of language which, when read literally, is not a statement of curative or therapeutic properties, but, owing to attendant circumstances, may be understood as such, brings these labels within the scope of the Federal food and drugs act just as definitely as if direct statements appeared.

This decision was made upon appeal by the United States Government from a judgment entered in the District Court for the Western District of Washington, dismissing a case brought against certain medicinal preparations which, the government alleged, bore false and fraudulent therapeutic claims on the labels. The federal food and drugs act, under which this action was brought, is designed, among other things, to prevent the sale in interstate commerce of medicinal preparations bearing false and fraudulent statements concerning their efficacy in treating disease.

The lower court dismissed the libel on the ground that it failed to allege facts sufficient to show a violation of the law, in that the statements on the labels to which the government took exception were not therapeutic or curative claims but were merely reports indicating that physicians had obtained favorable results from the use of the nostrum, each "report" being preceded by the statement "We have received many letters from physicians reporting".

The Circuit Court of Appeals, however, held that language such as that used would tend to engender a belief on the part of possible buyers that the use of the drugs would afford relief. "Unless we discredit their mental competency such, we must presume, was the intent and expectation of the proprietors", said the Circuit Court. "Their contention is that they have such letters or reports and that fact constitutes a competent defense, whatever may be the character of the drugs. But if, as is alleged, the drugs are worthless the proprietors cannot escape responsibility by hiding behind the phrase 'the doctors say'. Couched in such language undoubtedly the printed matter makes a more persuasive appeal to the credulity of sufferers from these diseases than if the representations thus implied were made directly upon the authority alone of the proprietors, and for that reason they are not less but more obnoxious to the law."

Missouri Valley Society at Iowa City in September

POST-GRADUATE MEDICAL INSTRUCTION

The Medical Society of the Missouri Valley was organized at Council Bluffs, Iowa, September 27, 1888, its avowed objects being "to foster, advance, and disseminate medical knowledge". Two years ago, in 1927, the officers of the Society thought they discerned a growing need among practicing physicians for graduate medical instruction, and decided to prepare the programs of future meetings along such lines, utilizing the facilities of the medical colleges in the area when available, and depending upon the instructional staffs for a large part of the material.

This year, the meeting is to be held in Iowa City, September 26, 27 and 28, under the direction of the College of Medicine and with the

cooperation of the Extension Division. The exceptional program which has been arranged appears on this page. It should be noted that each session includes outstanding names and that many clinics are provided, the material of the University Hospitals being completely available for this purpose.

This meeting will determine by its attendance whether the need for such efforts is actual, or whether such short courses are not in favor with the profession. With the exception of the Sioux Valley Medical Society, there is no other organization in this immediate vicinity, which proposes to offer graduate instruction. It is hoped that the physicians of Iowa will stand strongly behind this effort and show by their presence that the officers of the Society have not misjudged the needs of the medical community.

SCIENTIFIC PROGRAM

Thursday, September Twenty-sixth

Morning Session

8:45—Note of Welcome, and Address "Post-graduate Medical Instruction"—Dr. Henry S. Houghton, Dean of the College of Medicine, State University of Iowa.

9:00—Clinic—Pediatrics—Dr. P. C. Jeans, Professor of Pediatrics, State University of Iowa.

10:00—The Responsibility of the Medical Profession in the Health Program of the Public School—Dr. Fred Moore, Des Moines, Iowa.

10:30—Mild and Brief Forms of Manic Depressive Psychosis, and Their Treatment—Dr. George E. Neuhaus, Omaha, Nebraska.

11:00—Traumatic Cerebral Edema and Encephalitis—Dr. J. Jay Keegan, Professor of Clinical Pathology, University of Nebraska.

11:30-12:30—Clinic, Neurology—Dr. C. VanEpps, Professor of Neurology, State University of Iowa.

Thursday, September Twenty-sixth

Afternoon session

2:00—The Eye Grounds in Nephritis—Dr. C. W. Rutherford, Associate Professor of Ophthalmology, State University of Iowa.

2:30—Lipoid Nephrosis and Glomerulo-nephritis. Dr. E. T. Bell, Professor of Pathology, University of Minnesota.

3:00—The Relation of Back Pain to Diseases of the Genito-urinary Tract—Dr. Charles M. McKenna, Professor of Genito-urinary Surgery, University of Illinois.

3:30-4:30—Clinic, Urology—Dr. N. G. Alcock, Professor of Urology, State University of Iowa.

Evening Session

8:00—Recent Investigations of the Ovarian Hormone—Dr. E. A. Doisy, Professor of Biological Chemistry, St. Louis University.

Friday, September Twenty-seventh

Morning Session

9:00—Physical Diagnosis—Dr. Logan Clendening, Associate Professor of Medicine, University of Kansas.

9:30—New Possibilities in the Differentiation and Treatment of the Anemias—Dr. Hilding Berglund, Professor of Medicine, University of Minnesota.

10:00—Allergy As Related to the General Practitioner—Dr. W. W. Duke, Kansas City, Missouri.

10:30—Diseases of the Parathyroid (illustrated)—Dr. David P. Barr, Professor of Medicine, Washington University.

11:00—Personal Experiences with Spinal Anesthesia—Dr. J. W. Duncan, Associate Professor of Surgery, Creighton University.

11:30-12:30—Clinic, General Surgery—Dr. H. L. Beye, Professor of Surgery, State University of Iowa.

Friday, September Twenty-seventh

Afternoon Session

2:00—Clinic, Circulatory Diseases—Dr. A. D. Dunn, Professor of Clinical Research, University of Nebraska.

3:00—Unhappy Results in the Treatment of Fractures—Dr. Kellogg Speed, Associate Clinical Professor of Surgery, Rush Medical College.

3:30—Prolapse of the Uterus—Dr. Joseph L. Baer, Associate Clinical Professor of Obstetrics and Gynecology, Rush Medical College.

4:00-5:00—Clinic, Obstetrics—Dr. E. D. Plass, Professor of Obstetrics and Gynecology, State University of Iowa.

Evening Session

6:30—Dinner—Iowa Memorial Union

Presidential Address—Old Remedies and New—Dr. Ralph H. Major, Professor of Medicine, University of Kansas.

Saturday, September Twenty-eighth

Morning Session

9:00—Certain Features of Spastic Colitis—Dr. Fred M. Smith, Professor of Medicine, State University of Iowa.

9:30—The Treatment of Colitis—Dr. Donald P. Abbott, Professor of Medicine, Rush Medical College.

10:00—Anatomical Protective Mechanisms in the Peritoneal Cavity—Dr. H. J. Prentiss, Professor of Anatomy, State University of Iowa.

10:30—The Treatment of Peritonitis—Dr. Thomas G. Orr, Professor of Surgery, University of Kansas.

11:00—Clinic, General Surgery—Dr. Charles J. Rowan, Iowa City.

12:00—Adjournment.

Saturday afternoon

2:00—Football game—Iowa vs. Carroll.

Old Stadium

Admission, \$1.00—no reserved seats

PROGRAM—INTERNATIONAL MEETING OF THE INTER-STATE POST GRADUATE MEDICAL ASSOCIATION OF NORTH AMERICA

Detroit, Michigan

October 21, 22, 23, 24, 25, 1929

Monday, October 21st

Diagnostic Clinic (Neurological)—Dr. Charles A. Elsberg, Prof. of Neurological Surgery, Columbia University College of Physicians and Surgeons New York, N. Y.

Diagnostic Clinic (Pediatric)—Dr. Herbert B. Wilcox, Prof. of Diseases in Children, Columbia University College of Physicians and Surgeons, New York, N. Y.

Diagnostic Clinic (Surgical)—Dr. Charles H. Frazier, Prof. of Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.

Intermission

Diagnostic Clinic (Medical)—Dr. Leonard G. Rowntree, (Mayo Clinic), Prof. of Medicine, University of Minnesota Graduate School of Medicine, Rochester, Minnesota.

Oto-Laryngology

Address: "Some Problems in the Diagnosis and Treatment of Laryngeal Cancer"—Dr. Fielding O. Lewis, Prof. of Laryngology, Jefferson Medical College, Philadelphia, Pennsylvania.

Address: Dr. J. M. LeMec, Oto-Laryngologist of the Hopital Necker, Hopital des Enfants Malades and American Hospital of Paris, Paris, France.

Noon Intermission

Diagnostic Clinic (Surgery of the Hand)—Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University Medical School, Chicago, Illinois.

Diagnostic Clinic (Pediatric)—Dr. W. McKim Marriott, Dean and Prof. of Pediatrics, Washington University School of Medicine, St. Louis, Missouri.

Diagnostic Clinic (Orthopedic)—Dr. William S. Baer, Clinical Prof. of Orthopedic Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Intermission

Diseases of the Heart and Circulatory System

Address: "Clinical and Pathological Observations on Coronary Diseases" (Lantern demonstration)—Dr. Roy W. Scott, Prof. of Clinical Medicine, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: "Some Remarks about the Management of Aneurysm and Arteriovenous Fistula"—Dr. LeRoy Long, Dean and Prof. of Surgery, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma.

Address: "Hyperpiesis and Hyperiesia"—Dr. Thomas K. Monro, Regius Prof. of Medicine, Medical Department University of Glasgow, Glasgow, Scotland.

Address: Dr. Willis F. Manges, Clinical Prof. of Roentgenology, Jefferson Medical College, Philadelphia, Pennsylvania.

Address: "Periodontal Disease in its Relation to General Pathological Conditions"—Sir Frank Colyer, K. B. E., F.R.C.S., Dental Surgeon, London, England.

Dinner Intermission

Address: "Treatment of Fractures"—Dr. William Darrach, Dean and Prof. of Clinical Surgery, Columbia University College of Physicians and Surgeons, New York, New York.

Nervous System

Address: "The Value of Ventriculography in the Diagnosis of Cerebellar Diseases"—Dr. Charles A. Elsberg, Prof. of Neurological Surgery, Columbia University College of Physicians and Surgeons, New York, New York.

Address: "The Endocrine Relation of Certain Hereditary Disturbances of the Nervous System"—

Dr. Walter Timme, Clinical Prof. of Neurology, Columbia University College of Physicians and Surgeons, New York, New York.

Address: "The Mechanism and Treatment of Traumatic Epilepsy"—Dr. Wilder Penfield, Prof. of Neurological Surgery, McGill University Faculty of Medicine, Montreal, Canada.

Address: Dr. Charles H. Frazier, Prof. of Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.

Address: "Sympathectomy in Raynaud's Disease"—Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University Medical School, Chicago, Illinois.

Tuesday, October 22nd

Diagnostic Clinic (Surgical)—Dr. William Darach, Dean and Prof. of Clinical Surgery, Columbia University College of Physicians and Surgeons, New York, New York.

Diagnostic Clinic (Dermatological)—Dr. Howard Fox, Prof. of Dermatology and Syphilology, New York University, New York, New York.

Diagnostic Clinic (Surgical)—Dr. Carl A. Hamann, Prof. of Applied Anatomy and Clinical Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Intermission

Diagnostic Clinic (Medical)—Dr. Alan G. Brown, Prof. of Medicine, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "The Importance to the Surgeon of an Understanding of Biochemistry"—Dr. William J. Mayo, Surgeon and Chief of Staff, Mayo Clinic, Rochester, Minnesota.

Address: Privat-Dozent Muller, Medical Department of the University of Hamburg, Hamburg, Germany.

Noon Intermission

Diagnostic Clinic (Surgical)—Dr. Arthur Dean Bevan, Clinical Prof. of Surgery and Head of Surgical Department, Rush Medical College of the University of Chicago, Chicago, Illinois.

Diagnostic Clinic (Cardio-vascular Renal Disease)—Dr. Elsworth S. Smith, Prof. of Clinical Medicine, Washington University School of Medicine, St. Louis, Missouri.

Diagnostic Clinic (Surgical)—Dr. William D. Haggard, Prof. of Clinical Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee.

Intermission

Neoplasms

Address: Dr. Joseph C. Bloodgood, Prof. of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Address: "The Story of Tumors of the Breast from the Standpoint of the General Practitioner and Surgeon: Diagnosis, Treatment, Pathology and Prognosis"—Dr. Arthur Dean Bevan, Clinical Prof. of Surgery and Head of Surgical Department, Rush

Medical College of the University of Chicago, Chicago, Illinois.

Address: "Benign Tumors of the Breast"—Dr. Carl A. Hamann, Prof. of Applied Anatomy and Clinical Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Dermatology

Address: "Present Status of Roentgen Therapy of Diseases of the Skin"—Dr. James M. Martin, Prof. of Roentgenology, Baylor University College of Medicine, Dallas, Texas.

Address: "Artificial Dermatitis due to Plants, Medicaments, Irradiations and Malingerings" (Lantern demonstration)—Dr. Howard Fox, Prof. of Dermatology and Syphilology, New York University, New York, New York.

Dinner Intermission

Pediatrics

Address: "Developmental Defects in Children—Structural, Functional and Mental"—Dr. Herbert B. Wilcox, Prof. of Diseases in Children, Columbia University School of Medicine, New York, New York.

Address: "The Effects of Vomiting, Diarrhea and Water Loss on the Body and Newer Methods of Treatment"—Dr. W. McKim Marriott, Dean and Prof. of Pediatrics, Washington University School of Medicine, St. Louis, Missouri.

Address: "Prevention and Treatment of Scarlet Fever"—Dr. H. B. Cushing, Prof. of Pediatrics, McGill University, Faculty of Medicine, Montreal, Canada.

Address: "Infant Feeding with Special Reference to the Prevention of Rickets"—Dr. Alan G. Brown, Prof. of Medicine, University of Toronto Faculty of Medicine, Toronto, Canada.

Arthritis

Address: "Arthritis Deformans—its Etiology and Treatment"—Dr. William S. Baer, Clinical Prof. of Orthopedic Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Address: "Some Recent Studies in Arthritis"—Dr. Leonard G. Rowntree, (Mayo Clinic), Prof. of Medicine, University of Minnesota Graduate School of Medicine, Rochester, Minnesota.

Wednesday, October 23rd

Diagnostic Clinic (Surgical)—Dr. William E. Lower, Director, Cleveland Clinic Foundation; Associate Prof. of Genito-Urinary Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Diagnostic Clinic (Medical)—Dr. Duncan A. L. Graham, Prof. of Medicine and Clinical Medicine, University of Toronto Faculty of Medicine, Toronto, Canada.

Diagnostic Clinic (Surgical)—Dr. John B. Deaver, Emeritus Prof. of Surgery, University of Pennsyl-

vania School of Medicine, Philadelphia, Pennsylvania.

Intermission

Diagnostic Clinic (Medical)—Dr. Harlow H. Brooks, Prof. of Clinical Medicine, University and Bellevue Hospital Medical College, New York, New York.

Address: Dr. Hugh Cabot, Dean and Prof. of Surgery, University of Michigan Medical School, Ann Arbor, Michigan.

Address: "The Second Revolution in Ophthalmology." The Joseph Schneider Foundation Presentation—Dr. George S. Derby, Prof. of Ophthalmology, Harvard University Medical School, Boston, Massachusetts.

Noon Intermission

Diagnostic Clinic (Surgical)—Dr. William S. Quinby, Clinical Prof. of Genito-Urinary Surgery, Harvard University Medical School, Boston, Massachusetts.

Diagnostic Clinic (Medical)—Dr. Elliott P. Joslin, Clinical Prof. of Medicine, Harvard University Medical School, Boston, Massachusetts.

Diagnostic Clinic (Surgical)—Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Respiratory Tract

Address: "Roentgenology of the Upper Respiratory Tract"—Dr. Henry K. Pancoast, Prof. of Roentgenology, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.

Address: "The Diagnosis of Pleural Effusions"—Dr. Arthur C. Christie, Prof. of Roentgenology, George Washington University Medical School, Washington, D. C.

Urology

Address: "The Surgical Treatment of Anomalies of the Genito-Urinary Tract"—Dr. William E. Lower, Director, Cleveland Clinic Foundation; Associate Prof. of Genito-Urinary Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: Dr. William C. Quinby, Clinical Prof. of Genito-Urinary Surgery, Harvard University Medical School, Boston, Massachusetts.

Address: "The Diagnosis of Diabetes"—Dr. Elliott P. Joslin, Clinical Prof. of Medicine, Harvard University Medical School, Boston, Massachusetts.

Dinner Intermission

Address: Dr. Harlow H. Brooks, Prof. of Clinical Medicine, University and Bellevue Hospital Medical College, New York, New York.

Address: "Punching the Time-Clock of Age"—Dr. T. Wingate Todd, Prof. of Anatomy, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: Dr. William D. Haggard, Prof. of Clinical Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee.

Address: "A Pen Picture of the Country Doctor"—Dr. R. F. Lischer, Vice-President of the Southern Illinois Medical Society, Mascoutah, Illinois.

Thursday, October 24th

Diagnostic Clinic (Surgical)—Dr. John F. Erdmann, Prof. of Surgery, New York Post Graduate Medical School, New York, New York.

Diagnostic Clinic (Gynecological)—Dr. Benjamin P. Watson, Prof. of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons, New York, New York.

Diagnostic Clinic (Surgical)—Dr. Alexander Primrose, Dean and Prof. of Clinical Surgery, University of Toronto Faculty of Medicine, Toronto, Canada.

Intermission

Diagnostic Clinic (Medical)—Dr. Henry A. Christian, Prof. of the Theory and Practice of Physic, Harvard University Medical School, Boston, Massachusetts.

Diagnostic Clinic (Medical)—Dr. Campbell P. Howard, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

Address: Dr. T. de Martel, Surgeon, Hospital de la Cite du Medi, Paris, France.

Noon Intermission

Diagnostic Clinic (Surgical)—Dr. Dean Lewis, Prof. of Surgery, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

Diagnostic Clinic (Medical)—Dr. David P. Barr, Prof. of Medicine, Washington University School of Medicine, St. Louis, Missouri.

Obstetrics and Gynecology

Motion Picture: Caesarian Section—Dr. Joseph B. DeLee, Prof. of Obstetrics, Northwestern University Medical School, Chicago, Illinois.

Intermission

Obstetrics and Gynecology (continued)

Address: "Is there a Place for the Trained Obstetric Nurse or Midwife in America Obstetrics?"—Dr. Benjamin P. Watson, Prof. of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons, New York, New York.

Address: "Contrasting Indications for Surgery and Radiation in the Treatment of Cancer of the Uterus"—Dr. John C. Polak, Prof. of Obstetrics and Gynecology, Long Island College Hospital, Brooklyn, New York.

Address: "Varieties of Edema and Their Treatment"—Dr. Henry A. Christian, Prof. of the Theory and Practice of Physic, Harvard Medical School, Boston, Massachusetts.

The Abdomen

Address: "Observations on Abdominal Pain"—Dr. Frederick J. Kalteyer, Associate Prof. of Medicine, Jefferson Medical College of Philadelphia, Philadelphia, Pennsylvania.

Address: "Peritonitis"—Dr. John B. Deaver, Emeritus Prof. of Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.

Dinner Intermission

The Abdomen (continued)

Address: "Post-Operative Abdominal Fistulae or Sinuses"—Dr. John F. Erdmann, Prof. of Surgery, New York Post Graduate Medical School, New York, New York.

Address: "Intestinal Obstruction"—Dr. Alexander Primrose, Prof. of Clinical Surgery, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: Dr. Rollin T. Woodyatt, Clinical Prof. and Chairman of the Department of Medicine, Rush Medical College of the University of Chicago, Chicago, Illinois.

Address: Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Address: Dr. Dean Lewis, Prof. of Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Address: Dr. Duncan A. L. Graham, Prof. of Medicine, University of Toronto Faculty of Medicine, Toronto, Canada.

Friday, October 25th

Diagnostic Clinic (Surgical)—Dr. Charles H. Mayo, Associate Chief of Staff, Mayo Clinic; Prof. of Surgery, University of Minnesota Post Graduate School of Medicine, Rochester, Minnesota.

Diagnostic Clinic (Surgical)—Dr. Frank H. Lahey, Director, Lahey Clinic, Boston, Massachusetts.

Diagnostic Clinic (Medical)—Dr. Charles A. Elliott, Prof. of Medicine, Northwestern University School of Medicine, Chicago, Illinois.

Diagnostic Clinic (Surgical)—Dr. Hugh Cabot, Dean and Prof. of Surgery, University of Michigan, Medical School, Ann Arbor, Michigan.

Diagnostic Clinic (Surgical)—Dr. George W. Crile, Director, Cleveland Clinic Foundation; Prof. Emeritus of Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Diagnostic Clinic (Surgical)—Dr. E. Starr Judd, Surgeon, Mayo Clinic, Rochester, Minn.

Noon Intermission

The Gall-Bladder and Liver

Address: "The Etiology of Gall-Bladder Infection"—Mr. David P. D. Wilkie, F.R.C.S., Prof. of Surgery, Medical Department, University of Edinburgh, Edinburgh, Scotland.

Address: "The Newer Physiology of the Gall-Bladder"—Dr. A. C. Ivy, Prof. of Physiology and Pharmacology, Northwestern University School of Medicine, Chicago, Illinois.

Address: "Cholecystitis"—Dr. E. Starr Judd, Surgeon, Mayo Clinic, Rochester, Minnesota.

Address: "Cirrhosis of the Liver"—Dr. Campbell P. Howard, Prof. of Medicine, McGill University Faculty of Medicine, Montreal, Canada.

Address: "Practical Methods of Determination of Liver Function"—Dr. Charles A. Elliott, Prof. of Medicine, Northwestern University School of Medicine, Chicago, Illinois.

Address: Dr. Ferdinand Sauerbruch, Prof. of Surgery and Head of the Department of Surgery, University of Berlin, Berlin, Germany.

Address: Dr. Charles H. Mayo, Associate Chief of Staff, Mayo Clinic; Prof. of Surgery, University of Minnesota Post Graduate School of Medicine, Rochester, Minnesota.

The Thyroid Gland

Address: "End Results in Thyro-Cardiacs Three and a Half Years After Operation"—Dr. Frank H. Lahey, Director, Lahey Clinic, Boston, Massachusetts.

Address: "The Pathology of Goiter"—Dr. Alfred S. Warthin, Prof. of Pathology and Director of the Pathological Laboratory, University of Michigan School of Medicine, Ann Arbor, Michigan.

Address: "A Clinical Analysis of 20,000 Operations on the Thyroid Gland with Special Reference to the End Results"—Dr. George W. Crile, Director, Cleveland Clinic Foundation, Prof. Emeritus of Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

WISCONSIN ANNUAL SESSION, MADISON, SEPTEMBER 11-13

Iowa physicians have received from the Wisconsin State Society a special invitation to attend the eighty-eighth annual session of the sister society to be held at Madison, Memorial Union building of the University, September 11, 12, 13.

Special interest attaches to the first half day which is devoted almost wholly to medical economics; and also to the Thursday and Friday mornings which are given over to clinics in selected subjects.

THE PROGRAM

Wednesday, September 11th

8:00 A. M.—Registration

9:00 A. M.

Wisconsin Laws and Legal Rulings As They Pertain to Practice of Medicine—Fred M. Wylie, Attorney-at-Law, Madison.

The Doctor and His Collections—Prof. Robert R. Aurner, Department of Business Administration, School of Commerce, University of Wisconsin, Madison.

Opportunities and Trends in the Practice of Medicine—Dr. Olin West, Secretary and General Manager, American Medical Association, Chicago.

Fat Embolism—Dr. E. A. Miloslavich, Milwaukee.

2:00 P. M.

Bronchoscopy—Dr. Wellwood M. Nesbit, Madison.

Subject Later—Dr. F. C. Rodda, Associate Professor of Pediatrics, Minneapolis.

Sterility—Dr. Roland S. Cron, Milwaukee.

Prostatic Obstruction—Dr. Herman Kretschmer, Assistant Clinical Professor of Surgery, Rush Medical College, Chicago.

Thursday, September 12th

8:30 to 9:45 A. M.

Room A—Spinal Anaesthesia—Dr. Ralph W. Waters, University of Wisconsin, Madison.

Room B—Neuro-Syphilis—Dr. Wm. F. Lorenz, Professor of Pediatrics, University of Wisconsin, Madison.

Room C—Pernicious Anemia—Dr. Wm. S. Middleton, Associate Professor of Clinical Medicine, University of Wisconsin, Madison.

Room D—The Value of Sympathetic Gangliectomy and Trunk Resection in the Treatment of Raynaud's and Allied Vascular Diseases—Dr. A. W. Adson, Assistant Professor of Surgery, Mayo Clinic, Rochester.

9:45 to 11:00 A. M.

Room A—Use and Abuse of Forceps—Dr. John Harris, Professor of Obstetrics, University of Wisconsin, Madison.

Room B—Cardiac Decompensation—Dr. Francis D. Murphy, Assistant Clinical Professor of Medicine, Marquette University, Milwaukee.

Room C—Massive Atelectasis of the Lungs—Dr. F. J. Hirschboeck, Duluth.

Room D—Nephritis—Dr. Ralph Major, Professor of Medicine, University of Kansas, Kansas City, Mo.

11:00 A. M.

The Normal and the Diseased Heart—Dr. John H. Musser, Professor of Medicine, Tulane University, New Orleans, and President, American College of Physicians.

2:00 P. M.

President's Address—Dr. K. W. Doege, Marshfield Clinic, Marshfield.

Gynecological Subject—Dr. Harold O. Jones, Chicago.

Use of Pituitrin—Dr. Warren E. Leaper, Green Bay.

Goitre—Dr. A. L. Mayfield, Kenosha.

Subject Later—Dr. Harry Wahl, Dean of School of Medicine, University of Kansas, Kansas City, Mo.

7:00 P. M.

Annual Dinner (Informal)—Great Hall, Memorial Union Building. This dinner is given to honor this year all past presidents of the Society. Speaker of the evening—Dr. William Allen Pusey, Past President, American Medical Association.

Problems in the Corporate Practice of Medicine.

Friday, September 13th

9:00 to 10:30 A. M.

Room A—Treatment of Trophic Ulcers and Other Nervous Diseases by Alcoholic Injections—Dr. C. F. McClinic, Detroit.

Room B—Hematuria—Dr. J. C. Sargent, Professor of Urology, Milwaukee.

Room C—Oxygen Treatment of Pneumonia—Dr. John Pink, Milwaukee.

Room D—Pediatric Clinic—Dr. Francis S. Smyth, Washington University, St. Louis, Mo.

10:30 to 12:00

Room A—Thyroid Disorders—Dr. Arnold S. Jackson, Jackson Clinic, Madison.

Room B—X-Ray Diagnosis of Duodenal Ulcer—Dr. Charles G. Sutherland, Mayo Clinic, Rochester.

Room C—Diabetes—Dr. C. C. Edmondson, Waukesha.

Room D—X-Ray in Neurosis—Dr. Frank W. Mackoy, Sacred Heart Sanitarium, Milwaukee.

Room E—Subjects and speakers to be announced.

2:00 P. M.

Address by the President-Elect—Dr. Frederick J. Gaenslen, Milwaukee.

Subject Later—Dr. Joseph Barcroft, Professor of Physiology, Cambridge University, Cambridge, England.

Subject Later—Dr. Herman F. Derge, Eau Claire Clinic, Eau Claire.

Annual Oration in Surgery—Dr. George Heuer, Professor of Surgery, University of Cincinnati, Cincinnati.

CENTRAL STATES PEDIATRIC SOCIETY MEETING

The fourteenth annual meeting of the Central States Pediatric Society will be held in Milwaukee, Wisconsin, September 27 and 28. The two day program follows:

Friday, September 27, 1929

Tabernacle Baptist Church, 1713 Wells Street,
Adjoining Milwaukee Children's Hospital

1. 9:00 A. M. Rubella Immediately Following Rubella—Case Report—J. Gurney Taylor.
2. 9:10 A. M. The Development of Bone—E. J. Carey, Prof. Anatomy, Marquette University School of Medicine.
3. 9:25 A. M. Acute Intestinal Obstruction, Case Report—G. H. Fellman.
4. 9:30 A. M. Suprarenal Hemorrhage—A. L. Kastner.
5. 9:40 A. M. Chemical Blood Analysis and Its Diagnostic Importance—J. C. Bock, Prof. Physiologic Chemistry, Marquette University School of Medicine.
6. 9:55 A. M. Staphylococcus Empyema with Recovery, Two Month Infant—R. M. Greenthal.
7. 10:00 A. M. The Use of Toxoid for Immunization Against Diphtheria—A. B. Schwartz.
8. 10:15 A. M. Use of Toxoid for Immunization Against Scarletina—H. O. McMahon.
- 10:30 A. M. Intermission.
9. 10:40 A. M. Nutritional Requirements of Sick Children—M. G. Peterman.
10. 10:55 A. M. Pyloric Stenosis, Case Report—S. H. Lippitt.
11. 11:00 A. M. Transfusions in Children—S. J. Seeger, Surgeon to Milwaukee Children's Hospital.
12. 11:15 A. M. Acrodermia, Case Report—H. R. Foerster, Associate Professor Dermatology, Marquette University School of Medicine; and Milwaukee Children's Hospital.
13. 11:20 A. M. The Problem of Juvenile Flat Feet—H. C. Schumm, Orthopedist to Milwaukee Children's Hospital; and Assistant Prof. Orthopedics, University of Wisconsin Medical School.
14. 11:30 A. M. Hypertension, Case Report—G. F. Kelly.
15. 11:40 A. M. Osteomyelitis; with Fistula of Bladder, Case Report—N. Bourne, Associate Urologist Milwaukee Children's Hospital.
16. 11:45 A. M. Unusual Dyschondroplasia—W. P. Blount, Associate Orthopedist, Milwaukee Children's Hospital.
17. 11:50 A. M. Case Report—R. Ritchie, Resident Physician, Milwaukee Children's Hospital.
18. 12:00-2:00 P. M. Lunch and Exhibits.

Friday, September 27, 1929

Tabernacle Baptist Church, 1713 Wells Street

19. 2:00 P. M. Diabetes Insipidus, Case Report—M. G. Peterman.
20. 2:05 P. M. Thymic Shadows in Newborn—S. E. Kohn.
21. 2:15 P. M. Unusual Case of Edema—R. M. Hall.
22. 2:20 P. M. Teeth in Congenital Syphilis—T. R. Abbott, Dental Surgeon to Milwaukee Children's Hospital.
23. 2:35 P. M. Dental Abnormalities in Children—H. H. Reese, Assistant Professor Neuropsych., University of Wisconsin Medical School.
24. 2:50 P. M. Medical Aspects of the Nursery School—B. T. Haessler.
25. 3:00 P. M. Anesthesia in Children—R. M. Waters, Professor Anaesthesia, University of Wisconsin Medical School.
26. 3:10 P. M. Case Report—L. B. Saffro, Milwaukee Children's Hospital.
27. The Management of Strabismus—F. H. Haessler, Ophthalmologist to Milwaukee Children's Hospital.
28. 3:30 P. M. Case Report—D. Koch, Milwaukee Children's Hospital.
29. 3:35 P. M. Anomalies of Small Intestine—Irwin Schulz, Associate Surgeon to Milwaukee Children's Hospital.

30. 3:40 P. M. Mastoiditis in Infants—T. L. Tolan, Otolaryngologist to Milwaukee Children's Hospital.
3:50 P. M. Intermission.
31. 4:00 P. M. Case Report—H. B. Miner, Milwaukee Children's Hospital.
32. 4:05 P. M. Fistula Auria Congenita, Case Report—A. B. Schwartz.
33. 4:10 P. M. The Use of Citric Acid Milk in Infant Feeding—J. E. Gonce.
34. 4:20 P. M. Case Report—A. E. Cohen, Milwaukee Children's Hospital.
35. 4:25 P. M. Case Report—J. Moch, Milwaukee Children's Hospital.
36. 4:30 P. M. Case Report—A. Shaffer, Milwaukee Children's Hospital.
37. 4:35 P. M. Case Report—R. Garens, Milwaukee Children's Hospital.
- 7:00 P. M. Annual Dinner at Hotel Schroeder.

Saturday, September 28, 1929

Muirdale Sanatorium, Wauwatosa, Wisconsin

38. 9:00 A. M. Paper—G. L. Bellis, Medical Director, Muirdale Sanatorium.
39. 9:10 A. M. Osteomyelitis—F. J. Gaenslen, Prof. Ortho. Surgery; University of Wisconsin Medical School.
40. 9:25 A. M. Atresia of Oesophagus, Case Report—S. M. B. Smith.
41. 9:30 A. M. Experimental Acute Glomerulonephritis in Rabbits—L. M. Warfield.
42. 9:45 A. M. Pertussis Vaccine in Prophylaxis—R. P. Schowalter, Home for Dependent Children, Milwaukee County.
43. 9:55 A. M. Resuscitation of the Newborn—R. S. Cron, Associate Prof. Gynecology and Obstetrics, Marquette University Medical School.
44. 10:10 A. M. Tuberculosis in Children—K. E. Kassowitz, Milwaukee Children's Hospital.
45. 10:20 A. M. X-ray Studies of Bone in Continuous Phosphorous Ingestion—H. J. Zillmer, Milwaukee Children's Hospital.
- 10:30 A. M. Intermission.
46. 10:40 A. M. Tonsils and Nutrition—A School Survey—E. Cushing-Lippitt.
47. 10:50 A. M. Chronic Glomerulonephritis with Lipoid Changes. Studied Five Years to Death—F. D. Murphy, Professor of Medicine, Marquette University School of Medicine.
48. 11:05 A. M. Rheumatic Fever—N. Enzer, Director Laboratories, Mt. Sinai Hospital.
49. 11:15 A. M. Fungus Infection in a Child Treated with Thymol—Oscar Lotz, Wisconsin Anti-Tuberculosis Association.
50. 11:20 A. M. Congenital Syphilis—S. M. Markson, Dermatologist to Milwaukee Children's Hospital.
51. 11:30 A. M. "Cold" Vaccines—Results of Prophylactic Inoculations—F. R. Janney.
52. 11:40 A. M. 500 Consecutive Chest Roentgenograms in Newborn Infants—G. W. Stevens, Roentgenologist, Columbia Hospital.
53. 11:50 A. M. Acute Mediastinal Abscess, Case Report—B. J. Malnekoff, Milwaukee Children's Hospital.
54. 11:55 A. M. Tuberculosis in Children from the Sociological Viewpoint—A. A. Pleye, Wisconsin Anti-Tuberculosis Association.
55. 12:05 A. M. Oppenheim's Disease and Allied Conditions—B. B. Rowley, Neurologist to Milwaukee Children's Hospital.
- 12:25 A. M. Lunch.

SEDGWICK MEDAL AWARD

The American Public Health Association announces that the first award of the Sedgwick Memorial Medal will be considered in 1929. This award was established in honor of the late Professor Will-

iam Thompson Sedgwick, a former president of the American Public Health Association. The fund which provides the medal was raised by popular subscription from Professor Sedgwick's former students and friends. It is to be awarded for distinguished service in public health.

Except for the fact that it is limited to the recognition of service in the field of public health there is no restriction as to the special line of service that will be considered. Administration, research, education, technical service and all other specialties in the public health profession will receive equal consideration. No limitations as to age, sex or residence have been fixed, though only candidates who are nationals of the countries in the American Public Health Association—at present, United States, Canada, Cuba and Mexico—are eligible.

The committee will not consider direct application from candidates, but asks for nominations. Nominations should be addressed to the secretary, Homer N. Calver, 370 Seventh avenue, New York, N. Y.

ALL-DAY MEDICAL MEETING QUINCY, ILLINOIS

Monday, October 14, 1929

The fourth annual all-day Clinical Meeting of the Adams County Medical Society will be held at Quincy, Illinois, on Monday, October 14. This meeting is one of the largest one-day programs of any county medical society in the middle west. The speakers who have been secured are sure to attract a big attendance. The program is an all-Philadelphia one and will be given by the faculties of the University of Pennsylvania School of Medicine and the Graduate School of Medicine of the University of Pennsylvania.

Among those who will give papers or clinics are: E. L. Eliason, M.D., F.A.C.S., professor of clinical surgery; E. B. Piper, M.D., F.A.C.S., professor of obstetrics; Gabriel Tucker, M.D., assistant professor of bronchoscopy and esophagoscopy; I. S. Ravdin, M.D., assistant professor of surgical research; W. Estell Lee, M.D., F.A.C.S., professor of surgery; R. H. Ivy, M.D., F.A.C.S., professor of maxillo-facial surgery; B. R. Beltran, M.D., F.A.C.S., assistant professor of surgery; William Bates, M.D., F.A.C.S., assistant professor of surgery; T. Turner Thomas, M.D., F.A.C.S., associate professor of applied anatomy; and J. A. McGlinn, M.D., F.A.C.S., associate professor of gynecology.

The names of these men from the faculty of America's oldest medical school should guarantee a successful meeting. A detailed program may be secured from the secretary of the Adams County Medical Society, Dr. Harold Swanberg, 211-224 W. C. U. building, Quincy, Illinois. All ethical physicians are cordially invited to attend.

SOCIETY PROCEEDINGS

Calhoun County

The Calhoun County Medical Society met Thursday, July 18, at the cottage of Dr. A. C. Norton at Twin Lakes. The business session convened at 3:00 o'clock, after which Warren McCrary, M.D., of Lake City presented a paper on Types of Gastro-intestinal Diseases Met in Private Hospital Practice. The meeting closed with a picnic dinner served at 6:00 o'clock.

Davis County Annual Picnic

The members of the Davis County Medical Society held their annual picnic Friday, July 26, and doctors from Appanoose, Wapello and Van Buren counties were in attendance. Dr. H. C. Young, president of the local society, presided over the following program: The Workmen's Compensation Law As Relates to Medical Practice, E. Rominger, Bloomfield; Relations of State and County Societies, Channing G. Smith, M.D., Granger; Legislative Report, Vernon D. Blank, Des Moines; Tetanus, C. A. Boice, M.D., Washington; Relation of Teeth to Health, J. M. Keesey, D.D.S., Bloomfield.

Hancock-Winnebago Society

The members and their families of the Hancock-Winnebago County Medical Society met at Eagle Lake Park at two o'clock on August 1st.

The program was handled in the form of papers given by three of the members; Dr. Helgeson of Lake Mills, Dr. Dolmage of Buffalo Center and Dr. H. R. Irish of Forest City, on the subjects of How to Make a Country Practice Pay, Ectopic Gestation, and The History of Our County Society, respectively. All papers were ably discussed.

At the close of the scientific program the wives of the members served a delicious five o'clock dinner under the trees. The ladies are to be complimented; the dinner was most excellent.

The total attendance was thirty-six, a record attendance for so small a membership.

G. E. Searly, M.D., Secretary.

Taylor County

The Taylor County Medical Society met Tuesday, August 13, in Gravity, and the members enjoyed a twelve o'clock fried chicken dinner, after which the business session was held. The following scientific papers were presented: Genito-urinary Diseases, John C. Parsons, M.D., Creston, and Vitamins, C. P. Harken, M.D., Osceola.

Washington County

Tuesday, August 6, the Washington County Medical Society met at the Nurses' Home for their

regular monthly meeting. The speaker of the evening was E. M. MacEwen, M.D., of Iowa City, who spoke on Some Points in Brain Anatomy, and illustrated his talk with slides. The meeting closed with a short business session.

Washington County Social Meeting

The annual social meeting of the Washington County Medical Society was held in Washington, Tuesday, September 3. Members, wives and guests to the number of over sixty sat down to a 6:30 dinner in the banquet room of the Y. M. C. A. President John L. Frye, M.D., Kalona, called upon Dr. C. A. Boice who introduced the special guests: Dr. Channing G. Smith, chairman of the Council; Dr. George B. Crow, Burlington, Councilor of the First District; Dr. Philip C. Jeans, Iowa City, professor of Gynecology; and Vernon D. Blank, managing director of the Iowa state society. Dean Henry

MEDICAL EXAMINATION FILM AVAILABLE THROUGH THE STATE DEPARTMENT OF HEALTH

"Many Happy Returns" is the title of a movie film purchased by the Iowa State Department of Health to be sent free to county medical societies and other organizations for their use. This film demonstrates the benefits accruing from the complete periodical physical examination. It also depicts the process followed in making a complete physical examination.

The story will not only be interesting in a medical way to physicians, but the story or plot, carried by the picture, will hold the attention of lay audiences bringing home to them the necessity and benefits of such examination at least annually (on their birthday) and indicates a method of keeping well and fit, thereby prolonging their lives and extending their period of usefulness as well as pleasure.

Any medical society desiring the use of this film should write to the State Department of Health. The film is of standard size and can be used in the standard machine used for motion pictures. Medical societies desiring to keep the film for several days to a week for use in local picture houses should specify the length of time when they make their request.

S. Houghton of the State University Medical School delivered an interesting address upon Medical Experiences in China, which interestingly portrayed the humor, pathos, and inspiring achievements of western medicine amongst the Chinese.

Iowa-Illinois Central District Medical Association

Dr. B. J. Lachner of Rock Island, Illinois, was elected president of the Iowa-Illinois Central District Medical Association at the annual meeting held at the Hotel Blackhawk, Davenport, Thursday, July 18. Other officers are: Vice-president, Dr. George Braunlich, Davenport; secretary, Dr. Harry H. Lamb, Davenport, (re-election); and treasurer, Dr. J. H. Fowler, East Moline, Illinois, (re-election).

Upper Des Moines Society Summer Session

The summer meeting of the Upper Des Moines Medical Society was held August 8 at Arnold's Park. Dr. C. O. Epley, Spirit Lake, president of the society, opened the session shortly after 9:30 and introduced Daniel J. Glomset, M.D., Des Moines, who presented a paper illustrated by numerous charts, upon Hypertension. Some Aspects of Chronic Nephritis was the subject discussed by E. P. Scarlet, M.D., Department of Internal Medicine, University Hospital, Iowa City; and the morning session closed with a presentation by State Society President, John H. Peck, M.D., Des Moines, of the proposed constitutional changes and council redistricting. Following his talk the society unanimously voted approval of both plans.

The meeting was well attended there being nearly one hundred physicians registered; and during the noon recess a number of good sized picnic parties gathered at various points in the park.

The afternoon program was as follows: Arthritic Pain in Relation to Weather Changes, E. B. Rentschler, M.D., Mayo Clinic, Rochester; Nutrition in Childhood (with lantern demonstration), R. H. McBride, M.D., Sioux City; A Closed Aseptic Method of Gastro-intestinal Anastomosis—demonstrated with moving pictures, A. V. Partipilo, M.D., Loyola Medical School, Chicago, Illinois; Legislative Activities, Channing G. Smith, M.D., Granger, and Vernon D. Blank, Des Moines.

State President Peck presided at the evening banquet and after introducing a number of past and present state officers, he presented Senator F. C. Gilchrist of Laurens, the speaker of the evening. Senator Gilchrist spoke most interestingly on legislative problems and related them to medical progress. The Canti cancer film was then shown, the explanation being made by William R. Jepson, M.D., Sioux City, state chairman for the American Society for the Control of Cancer, through whose courtesy the film was presented. The session closed with a paper by J. F. Studebaker, M.D., Fort Dodge, on Post Operative Obstruction—A Dry Clinic with Discussion of X-ray Shadows.

The officers of the society are Dr. C. O. Epley, Spirit Lake, president; Dr. M. T. Morton, Estherville, vice-president; and Dr. George H. Keeney, Mallard, secretary and treasurer; and the committee on entertainment consisted of Dr. C. O. Epley, Dr. C. G. Nicholson, and Dr. Q. C. Fuller.

PERSONAL MENTION

Dr. Granville N. Ryan has returned to Des Moines from a six weeks' vacation trip which included attendance at the American Medical Association annual meeting in Portland, Oregon, and visits with his son and former Des Moines friends who are now residents of California.

Dr. Albert D. Neubert, formerly of Madison, Wisconsin, has joined Dr. Edgar R. Earwood in his practice of medicine in Fort Dodge. Before coming to Fort Dodge, Dr. Neubert was connected with the Jackson Clinic in Madison, Wisconsin.

Dr. John S. Tracy has recently moved to Storm Lake from Omaha, Nebraska, and plans to take up his residence and the practice of medicine there.

Dr. E. G. Kettelkamp, formerly of Des Moines, has located in Olin. While in Des Moines he was a member of the County Hospital Staff.

Dr. and Mrs. B. H. Sherman and family have left Dexter for Hollywood, California, where Dr. Sherman has established his practice, specializing in roentgenology. Dr. Merton H. Rice of Gresham, Wisconsin, has located in Dexter, taking over Dr. Sherman's office and practice.

Dr. J. H. McNamee, who is a graduate of the State University of Iowa, has located in Monona, where he has purchased the office and hospital equipment of the late Dr. Brownson.

Dr. F. E. Powers is moving his family and practice from Cascade to Boone, where he will specialize in the treatment of eye, ear, nose and throat.

Dr. Edwin B. Winnett, Des Moines, who has been recovering from a gall-bladder operation, is reported as being much better.

Dr. and Mrs. Dean M. Lierle, Iowa City, are making a six months' visit in Europe, and while there Dr. Lierle will do research work in the Vienna Clinics, as well as visiting the clinics and hospitals of Berlin and London.

Dr. C. A. Noland has sold his practice in Boone to Dr. F. E. Powers, formerly of Cascade, and is moving his family to Long Beach, California, where he will continue in his medical work.

Dr. and Mrs. Eugene Crouse, and the doctor's sister, Miss Anna Crouse, all of Grundy Center, were injured Sunday, August 18, when the car in which they were riding went into a ditch near Manchester and turned over. None of the injuries are considered serious.

Dr. J. W. Bailey, Des Moines, head of the x-ray department of the Polyclinic Hospital, is recovering from injuries received Sunday, August 4, when his

automobile turned over one mile south of Mallard, Iowa.

Dr. J. H. Bruce has moved to Fort Dodge from Dickens, and opened offices in the Physicians' Clinic, where he will specialize in obstetrics.

Dr. C. O. Parks, a recent graduate of the State University of Iowa, has taken over the office equipment and practice of Dr. J. A. Peters in Oxford.

Dr. F. S. Leonard, Cascade, announces that Dr. Gordon A. Granger will be associated with him. Dr. Granger is a recent graduate of the State University of Iowa and comes to Cascade direct from Chicago, where he has just completed his internship at Chicago Lying-In Hospital.

Dr. K. G. Cook, formerly of Chicago, has located in Fairfield, in the old offices of Dr. Charles Ricksher. Dr. Cook has been resident surgeon at the Illinois Central Hospital for the past year and a half.

Dr. T. C. Cooper is planning to return to Ogden, after an absence of over six years during which time he has practiced in Louisiana and in Delaware.

Dr. D. J. McCarthy has ended his twenty-seven years of practice in Davenport and has moved to Indianapolis, Indiana, where the family will make its future home.

Dr. R. H. Kanable, formerly of Broadlawns (Polk County) Hospital Staff, has been appointed superintendent and medical director of the Wyoming State Tuberculosis Sanatorium, Basin, Wyoming. Dr. Kanable was formerly assistant superintendent at Oakdale, Iowa, but had been at Broadlawns for two years.

Dr. J. F. Gerken, formerly of Iowa City, has located in Waterloo and is limiting his practice to pediatrics.

Dr. M. F. Crowell has recently located in Williamsburg and is associated with Dr. Clyde F. Watts.

Dr. J. O. Hoffman of Marshalltown is in York Springs, Pennsylvania, visiting friends and relatives there prior to leaving the United States for a trip to Europe. He expects to sail from New York, September 19th.

Dr. C. W. Tyler, Polk City, vice-president of the Polk County Society, was recipient of birthday honors last month from the community he has served thirty years. The occasion was his sixty-first birthday.

MARRIAGES

Friday, August 9, Miss Helen Heineke of Springfield, Illinois, and Dr. Howard J. Hartman of Anamosa, Iowa, were united in marriage at Springfield. Dr. Hartman is a nephew of Dr. F. T. Hartman of Waterloo, and after the wedding trip will come to Waterloo to be associated with his uncle in the practice of medicine.

OBITUARIES

Seybert, Frank T., Council Bluffs, died July 27, at the age of seventy as a result of prolonged heart trouble; graduated in 1881 from Jefferson Medical College of Philadelphia. At the time of his death he was a member of the Pottawattamie County Medical Society.

Cresap, Roger N., Bonaparte, died August 9, at the age of seventy-two as a result of inflammatory rheumatism; graduated in 1885 from Kansas City Medical College, Kansas City. He had long been a member of the Van Buren County Medical Society.

Brewer, Lewis Stanhope, Quimby, died August 13, at the age of fifty-nine as a result of an automobile accident which took place in Berwick, Pennsylvania; graduated in 1896 from the State University of Iowa College of Medicine, Iowa City, Iowa. At the time of his death he was a member of the Cherokee County Medical Society.

Gingles, Rush R., Onawa, died July 13, at the age of fifty-nine of pulmonary tuberculosis; graduated in 1893 from the Louisville Medical College, Louisville, Kentucky. At the time of his death he was a member of the Monona County Medical Society.

Waud, Thomas Smith, Cedar Rapids, died July 4, at the age of seventy-nine as the result of a cerebral hemorrhage; graduated in 1891 from the Kentucky School of Medicine, Louisville, Kentucky. He was long a member of the Linn County Medical Society.

UPPER DES MOINES SOCIETY HAS WOMAN'S AUXILIARY

Mrs. Edith M. Grimm, Spirit Lake, was chosen president of the Woman's Auxiliary of the Upper Des Moines Medical Society at its organization meeting held the afternoon of August 8 at Arnold's Park. Mrs. P. O. Nelson, Ayrshire, was chosen vice-president, and Mrs. J. B. Knipe, Armstrong, secretary and treasurer.

State president, Mrs. M. N. Voldeng, Woodward; vice-presidents, Mrs. P. B. McLaughlin, Sioux City, and Mrs. David H. Hopkins, Glidden; and treasurer, Mrs. Channing G. Smith, Granger, were present to assist in the organization of the new auxiliary, which was made formal by vote of the Upper Des Moines Medical Society during the business session of the summer meeting held that day.

Mrs. Grimm plans county organization throughout the territory of the district society and has appointed the following county chairmen: Mrs. C. C. Collister, Spencer, Clay county; Mrs. R. C. Coleman, Estherville, Emmet county; Mrs. Frank Cretzmeyer, Emmetsburg, Palo Alto county; Mrs. Cassius Col-dren, Jr., Milford, Dickinson county.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- PHYSIOLOGY OF BONE—R. Leriche and A. Policard—Translated by Sherwood Moore, M.D., and J. Albert Key, M.D.—C. V. Mosby Co., St. Louis—Price \$5.00.
- EDEMA AND ITS TREATMENT—By Herman Elwyn, M.D.—The MacMillan Co., New York, 1929—Price, \$2.50.
- DISEASES OF THE THYROID GLAND—By Arthur E. Herzler, M.D.—Second Edition, Entirely Rewritten—The C. V. Mosby Co., St. Louis, 1929—Price \$7.50.
- MEDICAL CLINICS OF NORTH AMERICA—Vol. 12, No. 2—Nebraska University Number, September, 1928—Per Clinic Year, July, 1928 to May, 1929—Octavo of 254 Pages with 40 Illustrations—Paper, \$12.00; Cloth, \$16.00 Net—Philadelphia and London—W. B. Saunders Company, 1928.
- BIRTH CONTROL OR THE LIMITATION OF OFFSPRING BY PREVENTION—By William J. Robinson, M.D.—Forty-sixth Edition, Revised and Enlarged—Eugenics Publishing Co., New York, 1929.
- INTERNATIONAL CLINICS—Edited by Henry W. Cattell, M.D.—Vol. II, 39th series, 1929—J. B. Lippincott Co., Philadelphia.
- THE NEUROSES—By Israel S. Wechsler, M.D.—Philadelphia and London—W. B. Saunders Company, 1929—Cloth, \$4.00 Net.
- CLINICAL LABORATORY METHODS—By Russell Landram Haden, M.D.—Third Edition—C. V. Mosby Co., St. Louis, 1929—Price \$5.00.
- CLINICAL ASPECTS OF VENOUS PRESSURE—By J. A. E. Eyster, M.D.—The MacMillan Company—New York, 1929—Price \$2.50.
- CLINICAL ASPECTS OF VENOUS PRESSURE—By J. A. E. Eyster, B.Sc., M.D.—The MacMillan Company, New York—Price \$2.50.

BOOK REVIEWS

YOUTHFUL OLD AGE

How to Keep Young—By Walter M. Gallichan—With an Introduction by Thurman B. Rice, A.M., M.D., Associate Professor of Bacteriology and Public Health, Indiana University School of Medicine; Author of "Conquest of Disease" and "Racial Hygiene". Price \$2.50. New York, The Macmillan Company, 1929.

This volume is timely in the fact that the author has not followed the trend of many books of this sort in presenting the fad of diet or hygiene, and has not, on a basis of personal experience, attempted to offer a rigid regime for the use of all individuals. He has, on the other hand, attempted to outline those factors conducive to mental and physical preservation, stressing at all times the variability in personalities requiring great selection in procedures. Following current continental thought, the author has stressed the subject of intestinal toxemia—auto intoxication—more than the subject warrants, and has taken an attitude relative to the use of alcoholic stimulants in the aged, which, while perhaps entirely rational, is not one possible in the average American community.

An unusual feature of the volume is the free discussion of sexual life. His viewpoint here is not one entirely of virility and ability to perform the sexual act, but a rather complete discussion of the effect of the internal secretions derived from the interstitial glands in preserving mental and physical strength. He discusses in a highly favorable manner the procedures of Voronoff and Steinaeh. This

discussion is unfortunate, since his viewpoint cannot be substantiated by fact.

Many other interesting discussions are included in the volume, such as play and hobbies, rest, sleep, mental activities, and a philosophy for the senile towards senility.

TEXT-BOOK OF CLINICAL NEUROLOGY

For Students and Practitioners—By M. Neustaedter, M.D., Ph.D., Visiting Neurologist, Central Neurological Hospital, Welfare Island; Clinical Professor in Neurology, New York Polyclinic Medical School and Hospital, Etc.—With an Introduction by Edward D. Fisher, M.D., Professor Emeritus of Neurology, University and Bellevue Hospital Medical College, New York. With 228 Illustrations, Some in Colors. Philadelphia; F. A. Davis Company, 1929.

The author in the compilation of this text has developed the subject of neurology along rather new lines. His departure from the conventional presentation has, in our opinion, added much to the value of the volume, and has rendered the subject matter more readily understandable, and the interrelationship of mental conditions more easily appreciated. Analysis of the subject is based insofar as possible upon an anatomic classification, and the student is urged to translate his history and findings into terms of pathology so that the symptom complexes become in the student's mind the result of definite anatomical lesions rather than abstract entities.

His chapter on the method of neurological examination is one of the most lucid and practical discussions of the subject which has come to our attention. "Reason" rather than "rhyme" is the criterion for this analysis. His discussion of poliomyelitis and epidemic encephalitis together with his discussion of the pertinent serology is very superior to that usually included in a text-book on this subject.

The volume is profusely illustrated with diagrams and well-selected and reproduced photographs.

DISEASES AND DEFORMITIES OF THE SPINE AND THORAX

By Arthur Steindler, M.D., F.A.C.S., Professor and Head of the Department of Orthopedic Surgery of Iowa State University Medical School, Iowa City, Iowa—with 76 Plates. Price, \$12.50. St. Louis: The C. V. Mosby Company, 1929.

In this volume Dr. Steindler has presented all of the commoner lesions affecting the spine and thorax, together with some mention of practically all of the rarer forms of disease affecting these regions. His form of presentation is unusually thorough, and in all cases, he has attempted to analyze the subject in light not only of his own experience, but also of the experience of others as reported in the literature. The author has discussed each lesion in a highly orderly fashion, beginning with a description of the lesion, its pathogenesis and pathology, its symptomatology, its significance upon the organism as a whole, and finally, its accepted treatment. There is nothing of superficiality in his discussion of any condition, and one will find a thoroughness of description which will be of particular value to the advanced student of orthopedic surgery.

The volume is thoroughly and profusely illustrated by well-reproduced photographic illustrations. The volume is quite unique and outstanding in our experience in this subject.

THE NOSE, THROAT AND EAR AND THEIR DISEASES

In Original Contributions by American and European Authors—Edited by Chevalier Jackson, M.D., Professor of Bronchoscopy and Esophagoscopy in the University of Pennsylvania, Etc., and George M. Coates, M.D., Professor of Otology, Graduate School, University of Pennsylvania. Assisted by Chevalier L. Jackson, M.D., Assistant in Bronchoscopy and Esophagoscopy, University of Pennsylvania. Octavo Volume of 1177 Pages with 657 Illustrations and 27 Inserts in Colors. Philadelphia: W. B. Saunders Company, 1929. Cloth, \$13.00 Net.

This volume of encyclopedic proportions covers the diseases of the nose, throat, and ear in a most

complete fashion. Presenting as it does opinions furnished by a large group of physicians, it is of unusual value, since the practitioner may readily review and benefit by such a composite viewpoint. Among the seventy-five contributors to this volume will be found practically all of the outstanding authors in the field of eye, ear, nose, and throat diseases both in this country and abroad. These collaborators have written their respective sections without apparent suggestion or guidance from the editors, and for this reason conflicting opinions may be expressed by these writers. In a systematic work of this sort, however, such contrary opinions serve a most useful purpose, since by this means a student is furnished with both sides of a debatable problem.

The volume has been thoroughly and carefully indexed, so that ready reference is possible to any particular paragraph. The volume contains numerous well selected illustrations which adequately exemplify the text descriptions. The book can be recommended without qualification to any physician in whose practice any amount of ear, nose, and throat work is done, and especially to those physicians limiting their practice to this field of medicine.

COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION

Edited by Mrs. M. H. Mellish, Richard M. Hewitt, B.A., M.A., M.D. and Mildred A. Felker, B.S. Volume XX, 1928, Published June, 1929. Philadelphia and London: W. B. Saunders Company, 1929.

This volume reviews 429 papers published by the Mayo Clinic, presenting in its entirety eighty-one papers, abridging or abstracting 115 articles, and referring merely by reference to 233 articles. The compilers of the volume have attempted to present in full only those articles which are of most value and interest to the general practitioner, diagnostician, and general surgeon, with the thought that those interested in the more technical presentations will pursue their researches guided by the abstracts or references.

The present volume maintains the high standard previously set by these publications. The volume is very carefully indexed so that it can be readily adapted for reference purposes.

THE CONQUEST OF CANCER BY RADIUM AND OTHER METHODS

By Daniel Thomas Quigley, M.D., F.A.C.S., Instructor in Surgery in the University of Nebraska College of Medicine, Etc. Published June, 1929; 539 Royal Octavo Pages, 334 Engravings. Price, Cloth, \$6.00 Net. F. A. Davis Company, Philadelphia, Pa.

It seems that the author in writing this book had in mind to give the reader many practical ideas

rather than to give a technical treatise on cancer. All the stages of the various types of malignancy as well as some benign conditions suitable for radium therapy are mentioned. It possibly might have improved the treatise if the chapter on precancerous lesions had been longer and more complete, especially in emphasizing to the student and practitioner the essential points in the recognition of those lesions. It would seem that the recognition and proper treatment of these precancerous lesions, classified, under one head, would be of unmeasurable value.

As the title would suggest, the book deals largely with radium treatment, but other methods are mentioned with their evaluation. Taking the volume as a whole it is very readable and understandable. It is well illustrated and one can gain valuable knowledge by careful study.

H. C. W.

THE TREATMENT OF FRACTURES

By Lorenz Boehler, M.D., Chief Surgeon and Director of The Vienna Accident Hospital. Authorized Translation by M. E. Steinberg, M.S., M.D., of Portland, Oregon. Published by Wilhelm Maudrich, Vienna, 1929. Cloth, \$5.00.

This monograph of 185 pages is a very concise and well executed work based on the author's own experiences during a practice of nineteen years covering the study of over 10,000 fractures, 70,000 roentgenograms and the dissection of more than three hundred fractures on the post-mortem table, performed chiefly during the war.

Open operation for the reduction of fractures is condemned and his chief reliance is upon fixation and traction. Also he finds more use for the unpadded plaster cast, giving the proper method for using and the dangers and methods of avoiding trouble.

For a brief work it is very comprehensive and details of the treatment of fracture of various bones are given fully.

It is a distinct addition to our literature upon the treatment of fractures.

F. W. F.

THE HISTORY OF NURSING

By James J. Walsh, M.D., Ph.D., Medical Director, Fordham University School of Sociology. New York: P. J. Kenedy & Sons. Cloth, \$2.00.

In any historical treatise the value of the work will depend to a very large extent upon the viewpoint of the historian. In the history compiled by Dr. Walsh, one cannot help but feel that the subject has been investigated largely from the standpoint of the contribution made to the development of nursing by the Sisterhood of the Catholic church. It is not to be understood that Dr. Walsh has de-

voted his entire space to this phase of the problem, but certainly this aspect of nursing history has been stressed to an unusual extent.

Any reader, whether acquainted with medical history or not, will appreciate this book because of the thoroughness with which the author has searched the literature particularly covering the early periods of recorded history. His form of writing is highly colorful, a factor which of itself adds materially to the worth of the volume.

MEDICAL CLINICS OF NORTH AMERICA

Volume 13, Number 1, Boston Number—
Price, Cloth, \$16.00 Net; Paper, \$12.00 Net.
July, 1929. Philadelphia and London: W. B. Saunders Company.

This volume presented by the Boston profession will, in my opinion, prove of especial interest to the general practitioner, since it contains an unusual arrangement of highly informative articles dealing with the commoner diseased conditions.

The clinic by Dr. Elliott P. Joslin and his associates on "Diabetic Coma" is an outstanding example of this thought. One will find discussed in other clinics such subjects as the treatment of eclampsia, nephrosis, the management of cerebral hemiplegia in patients with arterial hypertension, and a discussion of the leukemias. The clinic of Dr. Louis J. Ullian entitled "Subacute Bacterial Endocarditis" furnishes a most accurate review of this condition, exemplified by a typical case history, while the clinic of Dr. George P. Reynolds entitled "Physical Illness as an Etiologic Factor in Psychoneurosis" directs attention along a much neglected channel.

PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY

Fourth Edition, Thoroughly Revised—By Charles B. Slade, M.D., Formerly Chief of Clinic in General Medicine and Instructor in Physical Diagnosis in the University and Bellevue Hospital Medical College, New York, Etc. Philadelphia and London: W. B. Saunders Company, 1929.

This fourth edition revises and brings abreast the times an already popular guide to physical examination. It is the author's purpose to present the subject of diagnostic anatomy in a logical sequence, and encourage the student to conduct his physical examinations in an orderly fashion. He has attempted to guide the student in his study of the fundamental principles of physical diagnosis and purposely omitted the diagnosis of specific diseased conditions.

The author discusses methods in terms of anatomy and physics. He has maintained brevity—a quality of great importance in a text intended as an adjunct to practical clinical work.

The numerous diagrams executed by the author bespeak his originality of approach and are in themselves well worthy of careful study.

THE CHALLENGE OF CHRONIC DISEASES

By Ernst P. Boas, M.D., Attending Physician, Montefiore Hospital for Chronic Diseases and Nicholas Michelson, M.D., Adjunct Physician, Montefiore Hospital for Chronic Diseases. New York: The Macmillan Company, 1929. Price \$2.50.

This volume covers an aspect of sociological medicine which is almost entirely neglected. In the past, but little attention has been accorded the treatment of chronic diseases, especially those whose care has resolved itself upon the community because of the indigent condition of the sufferer. Having provided almshouses, the consideration of these individuals has been dismissed. In this small volume, the authors have attempted to outline both from the medical and the sociological viewpoint the problem of caring for the chronically ill, suggesting in the latter chapters of the book the probable methods for relief and the most suitable type of hospital construction and management for their care.

The volume will be of especial interest to those dealing with problems of public welfare as well as to the physician whose practice is to any extent among the chronically diseased.

PRINCIPLES AND PRACTICE OF ELECTROCARDIOGRAPHY

By Carl J. Miggers, M.D., Professor of Physiology in the School of Medicine, Western Reserve University, Cleveland, Ohio, 226 Pages, 61 Illustrations. C. V. Mosby Company, St. Louis, Missouri. Price \$7.50.

Dr. Miggers, a recognized authority on cardiac physiology, has prepared a valuable text on electrocardiography. There are nineteen chapters giving the principles of this science, descriptions of different forms of apparatus, and interpretations of tracings. The special attention he gives to clinical features is worth noting. Dr. Miggers' book is outstanding among those on this subject.

M. M. M.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY

By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of "American Pocket Medical Dictionary". Fifteenth Edition, Revised and Enlarged—with the Collaboration of E. C. L. Miller, M.D., Professor of Bacteriology and Biochemistry, Medical College of Virginia. Philadelphia and London: W. B. Saunders Company, 1929.

The fifteenth edition of this standard dictionary needs no introduction to the medical profession.

Since the original writing in 1900, this volume has been subject to frequent revisions, and on several occasions has been reprinted. In the present edition, the entire text has been reset, and the revision and rewriting have been extensive. The compilers have accomplished this revision without an appreciable change in the size of the volume.

In this edition will be found all medical terms used in current medical literature. The volume is of convenient size and well made, and can be highly endorsed for any use to which a medical word book of less than unencyclopedic size is suited.

UPPER DES MOINES SOCIETY APPROVES STATE CONSTITUTION AMENDMENTS

During the business session which was part of the all day summer meeting of the Upper Des Moines Medical Society, two resolutions were unanimously passed in connection with Dr. Peck's explanation of the proposed changes of the constitution and the councilor redistricting.

The society passed a resolution favoring the proposed constitution presented at the last meeting of the House of Delegates and which is to be voted upon at the 1930 meeting. The plan to divide the state into ten councilor districts of regular shape was also unanimously approved.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Social Worker (Psychiatric), \$2,000 A Year
Junior Social Worker, \$1,800 A Year

Applications for social worker (psychiatric) and junior social worker will be rated as received by the Civil Service Commission at Washington, D. C., until December 30.

The examinations are to fill vacancies in hospitals of the Veterans' Bureau throughout the United States.

The entrance salary is \$2,000 a year for social worker (psychiatric), and \$1,800 a year for junior social worker. Higher salaried positions are filled through promotion.

The duties are to investigate history and environmental conditions of patients; to analyze and submit data to the physician to aid him in arriving at a definite diagnosis and in outlining a course of treatment; to consider, report upon, and treat the social environment to which a convalescent patient may go or be expected to go.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience; and on a thesis or publications to be submitted by the applicant.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

JUNIOR ZOOLOGIST

Applications for junior zoologist must be on file with the Civil Service Commission at Washington, D. C., not later than September 24.

The examination is to fill vacancies in the Bureau of Animal Industry, Department of Agriculture, for duty in Washington, D. C., or in the field.

The entrance salaries range from \$2,000 to \$2,500 a year. Higher-salaried positions are filled through promotion.

The duties will consist in laboratory work relating to the investigation of animal parasites, such as postmortem examinations, fecal examinations, blood examinations, collection and preparation of specimens for gross and microscopical examination, study and identification of specimens of parasites, carrying out experiments under immediate supervision in life histories and in regard to the development of parasites in animals and various other procedures of a laboratory of parasitology, or conducting of field experiments under immediate supervision in connection with surveys, control measures, etc.

Competitors will be rated on practical questions in parasitology, and on a thesis to be submitted to the examiner on the day of the examination.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

OCCUPATIONAL THERAPY AIDE (ARTS AND CRAFTS)

Applications for occupational therapy aide (arts and crafts) must be on file with the United States Civil Service Commission at Washington, D. C., not later than December 30.

The examination is to fill vacancies in hospitals of the Veterans' Bureau throughout the country.

The range of salaries is \$1,800 to \$2,100 a year. The entrance salary is the lowest for the grade except where the isolation of the hospital or the character of the duties performed render a higher remuneration advisable. Promotion may be made to supervisory positions paying as high as \$2,800 a year.

The duties will consist of administering treatment by means of the arts and crafts, keeping a daily record of the work and progress of each patient coming under direction and instruction, and making the required reports of occupational activities.

Competitors will be rated on physical ability,

weighted at 20 per cent, and education, training, and experience, weighted at 80 per cent.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or custom house in any city.

PROPHYLAXIS AND EARLY TREATMENT OF PNEUMONIA

The prospects for success in the treatment of any disease are admittedly greater, the earlier the patient presents himself for medical attention. This is particularly true in pneumonia.

Many physicians carry a bottle of Optochin Base tablets with them during the winter months, so as to be prepared to institute treatment at the time of diagnosis. They do not wait for definite pneumonia symptoms to appear but prescribe Optochin Base prophylactically in all threatening cases. Cross writes, "The prompt use of Optochin Base in suspected pneumonia should in our opinion be a routine procedure, not delaying its administration for signs of definite consolidation. Chill, temperature elevation, respiratory symptoms, and diffuse or limited moist rales are to be considered indications for this drug".

The bactericidal action of Optochin Base is directed specifically toward all types of the pneumococcus, so that its use renders unnecessary the preliminary typing of the organism. The adult dosage is 4 grains of Optochin Base by mouth with 5 oz. of milk every five hours, day and night, for three days. If additional liquid is required give more milk in preference to water. No other food or drink is to be given during the course of the Optochin Base. All other oral medication is contraindicated, but hypodermic medication may be employed as required.

Merck & Co. Inc., Rahway, N. J., will supply any member with detailed literature and also sufficient Optochin Base for your next case of pneumonia.

NEW AND NON-OFFICIAL REMEDIES

Abbott Laboratories:

Viosterol—Abbott.

Benzol Products Co.:

Neocinchophen—B. P. C.

Dick X-Ray Co.:

I—X Barium Meal.

Parke, Davis & Co.:

Parke, Davis & Co.'s Viosterol.

E. R. Squibb & Sons:

Viosterol Squibb 100 D.

Squibb's Viosterol Cod-Liver Oil 5 D.

Squibb's Viosterol Cod-Liver Oil 5 D Mint-Flavored.

Terrell's Laboratories:

Rabies Vaccine Phenolized—Terrell.

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No. 10

KIDNEY INFECTIONS IN CHILDHOOD FROM THE PEDIATRIC VIEWPOINT*

P. C. JEANS, M.D., Iowa City

Bacteria may gain access to the kidney by way of the blood stream, by way of the urinary tract or by extension from neighboring structures. When they reach the kidney by way of the blood stream, the consequences are varied and depend upon several factors. The bacteria may be destroyed or may be excreted in the urine without producing any pathology which is clinically demonstrable. In other instances multiple abscesses throughout the kidney may develop. A small abscess in the cortex may rupture into perirenal tissue and produce a perirenal abscess. Similarly, an abscess may rupture into the kidney pelvis and produce pyuria, and perhaps pyelitis. In addition, pyelitis, independent of other kidney pathology, may arise from a blood borne infection. By invasion of the kidney from the lower urinary tract, bacteria may cause pyelitis and associated kidney inflammations, the latter sometimes of marked degree. Extension of perirenal infections to the kidney is uncommon.

Thus, by all routes of invasion, the kidney may be the seat of single or multiple abscesses or may have involvement of its pelvis with or without accompanying parenchymatous inflammations and complications. Also, infection by way of the kidney may produce perinephritic abscess, though this condition may originate quite independently of the kidney. These various inflammatory conditions will be discussed individually.

TUBERCULOSIS OF THE KIDNEY

Tuberculosis of the kidney has not been reported under five years of age, is rare under ten and is uncommon during the remainder of childhood. From the pediatric point of view the chief

interest lies in the diagnosis, the only effectual treatment being surgical. Symptoms usually are indefinite or absent. Pain may be present in the kidney region and the general nutrition may suffer. The primary lesions in the kidney are often multiple. If few in number they are most frequent in the cortex. In any case they extend until ultimately the pelvis is involved and pyuria and frequently hematuria become a part of the clinical picture. The urine commonly appears sterile when examined by the usual cultural methods, though a complicating secondary infection is sometimes present and may serve to obscure the diagnosis for a time. Attention first may be drawn to kidney tuberculosis by symptoms, such as frequency, due to secondary invasion of the bladder.

The only treatment worth while is the removal of the affected kidney if the infection is unilateral. With bilateral infection and with infections which are a part of a generalized tuberculosis, so likely to be the case in childhood, surgical treatment is not indicated. Often it is possible to determine by palpation which kidney is affected, though cystoscopy is desirable and exploration may be necessary.

PERINEPHRITIC ABSCESS

In perinephritis and perinephritic abscess the main feature of interest is the diagnosis. Perinephritis either resolves or becomes suppurative. Recovery takes place in practically all instances of suppurative perinephritis in which drainage is established. Staphylococcus is the usual organism. In our experience perinephritic abscess has been much more common in infants and very young children than in those older. For this reason the diagnosis is mainly objective. Localizing symptoms are few. The chief reliance must be placed on palpation, and so often this fails to reveal a mass until it has increased to a considerable size. The urine in the majority of cases gives no special clue to the diagnosis. The general signs present are those of suppurative in-

From the Department of Pediatrics, College of Medicine,
State University of Iowa.

*Presented before the Seventy-Eighth Annual Session, Iowa
State Medical Society, Des Moines, Iowa, May 8, 9, 10, 1929.

flammation in any location, viz., fever, prostration and leucocytosis. The patient is uncomfortable and often in apparent pain, but in the very young the pain is not well localized. The diagnosis is somewhat easier in the older child in whom may be elicited psoas spasm and other localizing phenomena.

MULTIPLE ABSCESSSES

Multiple abscesses in the kidney are relatively uncommon. They arise as the result of a blood borne infection. No treatment is effective and the prognosis is bad for the reason that almost always both kidneys are affected. The diagnosis clinically is often more difficult than in the case of perinephritic abscess, though pyuria more constantly accompanies multiple abscesses and serves as an aid in locating the infection. Signs of sepsis are present and an enlarged nodular kidney may be palpated.

PYELITIS

Of the various infections of the kidney those of the kidney pelvis are found with the greatest frequency and consequently deserve more detailed discussion. It is well established that pyelitis may have its origin either from a blood borne infection or from one ascending from the lower urinary tract, though the controversy is still unsettled as to which of these routes is the more common. It seems unnecessary to review the evidence bearing on this point.

A certain amount of dispute has arisen also in regard to the identity of the causative organism. The general consensus of opinion is that, though occasionally other organisms may be the cause, the colon bacillus is the etiological agent in the great majority of cases. No doubt exists that the colon bacillus is present in most cases, but claim has been made that some other organism, usually a coccus, is present as the true cause, its presence being difficult to determine because of the overgrowth of the colon bacillus. This latter view has not been well substantiated and for the present we are justified in assuming that the colon bacillus is the common cause.

Whatever the bacterial cause and whatever the route of infection in pyelitis, one factor which, from clinical and experimental observation, is assumed to be necessary, probably for production and more certainly for the obstinate continuance of the infection is some variety of urinary obstruction. It matters little whether the urinary retention is due to stone or some malformation or is merely functional. Thus it may be considered that two factors enter into the

etiology of pyelitis, viz., obstruction and the presence of bacteria.

Of interest in this connection is the frequency with which bacteria, particularly colon bacilli, may be found in the urinary tract in the absence of symptoms of kidney infection. Though some observations to the contrary exist, the best evidence indicates that the urinary tract of the normal healthy individual seldom contains bacteria. On the other hand several observers have found colon bacilli in a relatively high proportion of infants with gastrointestinal disturbances when no symptoms were present which indicated urinary infection. Often the number of bacilli found under these circumstances was great enough to warrant the term bacilluria. This tends to bear out the assumption, previously stated, that something more than the mere presence of bacteria in the urinary tract is necessary to produce clinical signs of inflammation.

Because the colon bacillus is to be found with special frequency in the urinary tract in association with gastrointestinal disturbances, such disorders must be considered as an important etiological factor in pyelitis, regardless of the route by which the organisms enter the tract. For the same reason anything which produces gastrointestinal disturbances plays an etiological role. It is common knowledge that parenteral infections in infants are prone to cause gastrointestinal upsets. The most frequent of such infections is the common cold and its complications. Thus, sinus and ear infections may be considered as definite etiological factors in pyelitis, though this relationship is chiefly indirect.

It is possible that upper respiratory and other infections may be the direct cause of pyelitis by making the infection site the portal of entry for the organism in those cases in which the kidney pelvis is infected by one of the pyogenic cocci. However, such parenteral infections can scarcely be the immediate cause (portal of entry) in those instances which constitute the majority and in which the colon bacillus is the infecting organism in the kidney.

It is plausible to consider that diarrhea and those agencies which cause it may supply both factors necessary for the production of pyelitis, viz., bacilluria and urinary retention. The retention in such a case is not due to obstruction but is merely relative and due to diminished urinary excretion. If diuresis is a good therapeutic measure in pyelitis, then oliguria in all probability can be considered as an etiological factor.

The inference might be drawn from this discussion that diarrhea is considered as an eti-

ological factor in nearly all cases of pyelitis. This is by no means true. Often it is difficult to state just how or why the colon bacillus has gained entry to the urinary tract. One must infer, however, that this organism is to be found in the urine with relative frequency, at least in the very young, and that it is to be found with much greater frequency in association with gastrointestinal disorders than when no such disturbance is present. The possible importance of intestinal disorders is emphasized also by the age of greatest incidence of pyelitis, i. e., that period of life often referred to as the "diaper age". In this same age period is shown the greatest susceptibility to digestive disorders.

The symptoms of pyelitis are extremely varied. In the infant and young child they are not localizing. In the older child they have simulated those of appendicitis and other acute abdominal conditions. A child with pyelitis may be bright and alert or in any gradation from this to a typhoid state. All of the clinical features of acute meningitis may be simulated very closely, except, of course, a pathological spinal fluid. Leucocytosis is to be expected but is not always present. Perhaps, of all the symptoms, fever is the most nearly constant. This may be of several types. One which is frequent presents marked and rapid fluctuations of the character spoken of as septic. Chills are likely to be associated with the rapid rises of temperature. These statements concerning the symptoms refer to simple pyelitis. Should the kidney become more extensively involved, for example with pyelonephritis or pyonephrosis, the symptoms of uremia or sepsis are likely to supervene. Fortunately these complications are infrequent.

The diagnosis of pyelitis presents no special difficulties if the urine is examined. In fact, the diagnosis depends almost exclusively upon the results of repeated and carefully made examinations of the urine. Whatever the symptoms may be, the same symptoms may be caused, so often, by infection at almost any other site. Often moderate numbers of pus cells may be found in a voided specimen when catheterized urine from the same patient is entirely negative. Sometimes a single specimen may show no pathology when preceding and subsequent specimens do. Thus, errors in the diagnosis of pyelitis are readily made in either direction if suitable precautions are not taken. A question, which frequently arises, concerns the number of pus cells required to merit the term pyuria. A normal urine contains less than ten cells to each low power microscopic field. In most instances in which the in-

crease over this number is so small as to raise a question, the pyuria is of no special clinical significance. In the cases in which the pyuria is a definite factor in the illness the number of cells is great enough that no doubt need remain.

The prognosis of uncomplicated pyelitis is good though in some cases pyuria persists with intermittent symptoms over a period of several years. In many cases in which no marked obstruction or urinary retention exists, the pyuria and bacilluria will cease spontaneously or with relatively little treatment when the associated parenteral infection or gastrointestinal disturbance has subsided. The cases which are the most troublesome and persistent usually are those which appear to be primary infections or in which definite obstruction exists.

In the treatment of pyelitis we have several therapeutic measures of value. Regardless of what other means of treatment is chosen it is generally agreed that diuresis produced by increasing the fluid intake is useful. Infants and young children usually will take plain water as satisfactorily as any other fluid. Perhaps the addition of saccharine is an aid in some instances.

Another therapeutic agent which has been proved useful by extensive clinical experience and observation is alkaline salts, though the reason why they are beneficial is not at all clear. Either citrates or carbonates or a combination of these may be employed. Often considerable amounts are required to produce the desired results. A good criterion of a proper dosage is the turning of litmus paper blue by all voided specimens of urine. From 60 to 200 grains or more a day are required to accomplish this. The alkali treatment will ameliorate the symptoms in the majority of cases but sometimes will not lessen the pyuria and bacilluria.

When the evidences of inflammation persist despite alkalinization some of the drugs which are presumably urinary antiseptics are indicated. The best of these is urotropin which, to be effective, must be given in relatively large doses, and must be excreted in an acid urine. The dose varies from 30 to 90 grains divided through the day and given for short periods only. Hematuria or vomiting is an indication for discontinuing the drug. When the administration of alkali has been discontinued, the urine, in cases of pyelitis, usually becomes acid. If it does so slowly or only to a slight extent some acid producing salt, such as ammonium chloride, may be given.

But few cases resist the alternation of the alkali and the urotropin-acid regimes. For those

which do, certain other measures may be employed. One finds a divided opinion concerning the value of vaccines, but the weight of clinical evidence is against their usefulness. Lavage of the kidney pelvis with instillation of silver nitrate has been reported as being successful in a large proportion of the resistant cases. In cases with partial or functional obstruction one may cause the symptoms to disappear and apparently may sterilize the urine by means of the measures cited, only to have the infection recur in a short time because of the persistence of the obstruction.

The majority of the cases of pyelitis are seen first by the general practitioner (the pediatrician). His role is to make the diagnosis and to manage the treatment of the simple cases which constitute the majority. In the minority of cases he is the coordinator of the findings and advice of the specialist consultants. Since, in so many instances, the pyelitis is associated with parenteral infection and this infection so frequently is in the nose and throat, the otolaryngologist is often called upon for assistance in the management. Again, in those cases which resist treatment, it becomes desirable to examine the patient for urinary obstruction. Sometimes the obstruction is obvious, as, for example, paradoxical incontinence or an unusually tight phimosis. More often, however, a more careful search is necessary. This requires the services of one especially trained in this field, i. e., a genitourinary surgeon. Both otolaryngology and genito-urinary surgery are represented in this symposium.

Discussion

Dr. Benjamin C. Hamilton, Jr., Jefferson, Iowa—I want to congratulate the essayist on his instructive and complete essay and wish merely to emphasize one point, that of diagnosis. The present classification of kidney infections renders the diagnosis of utmost importance, because this will give us a lead as to the cause and proper treatment of the infection can then be given. In order to make this diagnosis it may be necessary to have the aid of the nose and throat specialist, or of the genito-urinary or possibly the laboratory man. The first time we see the patient it is our duty to make careful physical examination. The physician who adopts a methodical routine in examination of every patient will not miss very many of the kidney infections. The kidneys act as a filter for bacteria and children are prone to infections, and we are therefore not surprised to find so many cases of infection of the kidney. The etiology of kidney diseases varies a great deal. The most common types of kidney infection are pyuria and pyelitis. I believe it is accepted that the condition in which the urine con-

tains bacteria for a short time would be called pyuria, while a case in which the urine manifested pyuria for a continued time without evidence of other infection would be called pyelitis. In a recent study made in children's hospitals of 187 cases of pyelitis, twenty-nine of these were associated with infection of the upper respiratory region. Six of these cases were complicated by endocarditis, arthritis and chorea, while thirteen were complicated with other diseases such as pulmonary tuberculosis, cleft palate, ileocolitis, and other conditions, showing the wide range of diseases with which pyelitis may be associated and also giving evidence of the importance of very careful examination in the case of any infection. In a recent study of pyelitis made by Helmholtz, fifty-seven cases showed an abnormality of the genito-urinary tract. If we have a patient with persistent pus in the urine which we are not able to explain by ordinary examination, and the case does not in a few weeks respond to medicinal treatment, then we are justified in instituting a very thorough examination of the upper respiratory tract and of the genito-urinary tract. If there is loss of appetite and irregular fever, and we are unable to explain this condition, we should then make repeated microscopic examination of the urine. Of utmost importance is it to be not like the physician who when called to see a case asked the patient, what is the matter?—and upon receiving the answer—chills and ague and a little fever—without further examination pronounced the case influenza, gave him some tablets and walked away, later being much surprised to note among the deaths in his community that of this patient due to diabetes.

KIDNEY INFECTIONS IN CHILDHOOD FROM THE GENITO-URINARY VIEWPOINT*

LEON D. JAY, M.D., Waverly

In presenting my phase of this symposium, it is my aim to show the great and often times the absolute necessity of complete urological study, especially in those cases which present vague and indefinite symptoms and also those cases in which treatment does not seem to correct in a reasonable time. We all recall the program of surgical clinics, when "exploratory operations" became a common procedure. They are still very frequently resorted to in general surgery, but as yet seldom seen in a urological clinic. During the past twenty years the diagnosis of kidney and bladder infections and, in fact, all urological lesions has become almost an exact science. With the increased knowledge of kidney pathology, of

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diagnostic methods, and with instruments of precision we are much better able to diagnose and treat our patients.

It has been customary to divide the lesions occurring in infections of the kidney into three groups, i. e.: pyelitis, pyelonephritis, and pyonephrosis.

These divisions are arbitrary and they are to be considered as in no way separate diseases. In times gone by, various writers suggested that lesions confined to the pelvis of the kidney should be termed pyelitis. Lesions involving the pelvis of the kidney and extending into the kidney structure itself should be termed pyelonephritis. These infections were supposed to arrive by way of the ureter. Lesions of the kidney involving the parenchyma only were termed pyonephrosis and were represented by multiple abscesses, infected infarcts, and acute nephritis which were thought to be of hemic origin. This division or distinction is no longer true, since it has been clearly proven that a hemogenic infection may set up a lesion essentially confined to the pelvis, and most of us now feel sure that the majority of kidney infections, where the ureter appears normal, come by way of the blood stream. Therefore applying names to various kidney lesions is done purely on anatomic grounds, and they are descriptive of pathological conditions, and carry no inference as to the real source of infection.

Renal infection frequently occurs spontaneously, and it is then a question whether the organisms have come from the blood stream, or whether a pre-existing but quiescent infection has undergone sudden extension. There is absolutely no doubt that the blood stream in most cases is responsible for the renal infection. The organisms must enter the blood through a primary focus elsewhere in the body. Statistics prove that in infectious diseases, the organisms causing the disease have been found in the urine and with signs of kidney infection in twenty-eight out of thirty-two cases especially worked out and recorded. Staphylococci and streptococci have been found in the urine in pyogenic infections, typhoid bacilli in typhoid fever, and pneumococci in pneumonia. Many cases are observed where renal infections clear up after tonsillectomies and extraction of dead teeth. The most common microorganism is the colon bacillus, which may appear by way of any one of the three accepted avenues. The bacteria may float individually in the blood in diffuse hemic infections, or they may be in small masses which act as emboli. The latter condition usually arises from lesions, which produce a localized thrombo-

phlebitis, and in this case the emboli are really bits of infected blood-clots producing septic infarct formations. Again renal infections may occur through the lymphatics. Some lymphatic channels from the intestines enter the same retroperitoneal lumbar lymphnodes as do certain of the lymph channels from the kidney. Infections are possible from this path, but to date no investigator has a definite proof.

If the point of infection is the urogenital tract the infection may proceed on in the same direction as the secretory stream, or it may proceed in the opposite direction. Thus to make the terms plain, an infection progressing in the direction, kidney to ureteral meatus or testis to verumontanum is a "descending infection", while if in the opposite direction, it is an "ascending infection". Since the secretory stream carries the products of inflammation to parts at a distance, descending infections are frequent. Any point below the origin may be affected and local predispositions play a big part. For example, in pyelitis, the trigone and prostatic urethra may be inflamed, while the vertex of the bladder and anterior urethra are normal; in tuberculosis of the kidney the ureter may resist the infection for a long time, even while the bladder is much ulcerated.

The extension of an infection by the secretory stream may be prevented when the duct is occluded. Sometimes the ureter may be completely occluded, so that even if a pyonephrosis exists above, the urine may be clear and the bladder healthy. Again infections may descend by contiguity of tissue, either along the mucosal surface, or by the lymphatics, entirely independent of the direction of the secretory stream. Controversy has been and still continues over the mechanism of ascending infections, yet 80 to 90 per cent of microorganisms found in smears from pyelitis are of the colon B. group. The other 10 to 20 per cent divide up between staphylococci, streptococci, typhoid bacilli, pneumococci, etc.

It is to be remembered in dealing with the public that children from all classes of society are met with. The hygienic conditions are both good and bad. When a female infant is allowed to go for a period of time with napkins soiled by bowel content and even urine, much local inflammation and infection can be produced and can be spread by an ascending infection to the bladder and kidney. Infections may spread in three ways: first, by the lumen; second, by the lymphatics; and third, by the blood stream through the general circulation.

Infections of the kidney in children is not un-

common and occurs more frequently in female infants and children than in males. These little patients should have the same careful diagnosis and care as their parents, and perhaps, if possible, more careful as their entire life is before them and to make useful men and women they should be kept physically fit. These young patients are presented by parents or nurses and it is only from the older ones that any story of value is obtained. As suggested by Dr. Charles Mayo at a recent meeting of the Blackhawk Medical Society, the younger medical men are poor observers as compared with the older doctors. This true, it is only fair to assume that the observation of laymen and laywomen is still less accurate, especially true when dealing with the genito-urinary tract.

How many children do we see with an acute trouble where only the most meager history is obtained, a very superficial examination made, and no urinalysis. These cases are given some harmless drug, and dismissed with a diagnosis of teething, intestinal worms, or stomach trouble in the hope that they will get better. True, many cases do thus recover, but it is the type that do not that need further study and examination.

Of the various lesions of the urinary tract in infancy and childhood none occur so frequently as acute and chronic pyelitis with the exception, possibly, of enuresis, and then one-half of the cases of enuresis are due to kidney infections. Among the cases of acute pyelitis there is a group seen by all physicians, which run a short course and get well without any treatment. I observed this type of patients recently while on service at the Lutheran Orphans Home, Waverly, Iowa. I examined seventy-two children under fifteen years of age for kidney infections. These children were all up, attending school, and following the daily routine of the orphanage. Twelve of the seventy-two, six boys and six girls, had pus in their urine; one had a definite nephritis; and seven had a glycosuria. These kidney observations were made following a severe epidemic of influenza and mumps. The thirteen children with a positive kidney pathology are now under a line of treatment. Of course, these thirteen cases would be classified under the second or third group I am about to mention.

A second group, which is the largest, includes those cases where a diagnosis is made, the patient is put on treatment and in due time a recovery results. These two groups offer no problem. The third group is the puzzling one. The patient is the victim of recurring attacks or relapses. Here also falls the case of persistent pyuria. To de-

termine the cause and to institute treatment, which will produce a cure usually becomes a urological study.

Children in this group of cases should have the same careful work laid out on their complaints as do the adults. First a very painstaking history should be taken, not once, but upon several occasions, for many times important data will be elicited upon having the story told repeatedly. Following this should come a thorough physical examination. Fever, emaciation, anemia, tenderness, and masses should be watched for. Tenderness may be associated with muscle spasms of the abdominal wall over the kidney and ureter or the spinal muscle on the affected side. In perinephritic inflammation there will many times be a puffiness or redness of the skin in the loin or there may even be an abscess. One should hunt for foci of infection in other parts of the body. Often a pediatrician or a head specialist has the etiological factors already worked out. From the urologist's viewpoint the next and most important step is that of a complete examination of the urine. If the patient is a boy it is a simple matter to obtain a sterile specimen. The penis should be washed with soap and water followed with bichloride. Then insert the penis in a sterile test tube and hold it in place with adhesive until the child urinates. In girls under aseptic precautions a soft rubber catheter may be introduced into the bladder and a specimen of urine obtained. Pus, red cells, and microorganisms are the elements most frequently found. Chemical and also microscopic examinations of centrifuged specimens can be made. They give in comparison the most information. Repeated findings of eight to ten pus cells per field should suggest definite pyuria.

The diagnosis of renal infections in children may not be difficult to make after a correct urine examination. A cloudy, purulent, infected urine, usually associated with fever, localized pain, tenderness and muscle spasms in the kidney regions, and even at times enlargement makes the diagnosis clear. The onset is usually sudden, and except for hematuria or cloudy urine, the picture is an acute general inferior. If both kidneys are involved, uremia may appear quickly. In the chronic forms there is a variation in severity of symptoms between pyelitis and pyelonephritis on the basis of symptomatology.

A diagnosis of the infections of the kidney include: (1) The determination of the presence of an infection; (2) The identity of the infecting organism; (3) The source of infection; (4) The severity and extent of the lesion; (5) The

amount of damage done to the secreting parenchyma, and (6) Whether any obstruction is present and if present, its nature.

Up to this point the little patients can be checked at will, but now comes a number of objections. The expense feature arises, and then too the examinations are somewhat more drastic and severe. However, a preliminary radiogram should be obtained as in adult patients to show stones or calcifications, abnormal locations and changes in shape and size of the kidneys. Tests of kidney functions are rather easy and should always be made to make our urological study complete. A simple way is to measure the fluid intake and the fluid output. Estimate the specific gravity and test the output of urea. Blood chemistry should always be determined.

An increase in urea and creatinin and non-protein nitrogen indicate a marked retention. When this condition is found any farther operative examinations should be delayed as our patient is carrying all the load possible. But if conditions are favorable the estimation of kidney functions by thallin or indigo carmine can be carried out to determine if one or both kidneys are damaged and the amount of damage present. Cystography on children should be a routine and it is relatively simple. It gives size and shape of bladder and any tendency to a reflux up the ureter.

Of course the last step in the examination of infants and children for persistent kidney infection should be cystoscopy, ureteral catheterization, and pyelography. Up to the last decade this operation has met with a great deal of criticism. Many medical men and all laymen classify this process with major surgical procedures. True it is that most children need a general anesthetic during the cystoscopy, but that is no counter indication for children usually react well to the anesthetic and even to the cystoscopy. I need not urge that their recation is far better than in adults.

In presenting my subject I have taken up only the lesions, dealing with the ordinary pyogenic microorganisms as acute infections. Tubercular conditions, infections associated with calculi, ureteral strictures, and malformations all are found in children as in adults, but consume too much time if taken up in this symposium.

Before closing my paper allow me to reiterate: Dysuria; urinary frequency; urinary urgency; hematuria, macroscopic and microscopic; and pyuria are all symptoms that demand a complete examination of the genito-urinary tract. The last bulletin from the American Urological So-

ciety reports many cases of marked pathology in the urinary tract of children and infants. But, sad to say, most of these conditions were found at post-mortems. This surely leads me to think that we are missing too many lesions in the genito-urinary tracts of the young.

I have touched only the high spots of the many problems in the urology of children. Physicians, as physicians, should have but one aim, i. e., to use every known means at their disposal to diagnose and treat diseases. I cannot condemn enough the indefinite and blind treatment of a patient, who presents symptoms that seem to indicate a serious pathological problem. An early diagnosis and early treatment are the keys to success. Today urologists, with their instruments of precision and their rapidly increasing specialized skill, can easily take their places in the front ranks with men, who are widening the horizon of scientific and progressive medicine.

Discussion

Dr. Clifford W. Losh, Des Moines, Iowa—The essayist has very ably covered this subject especially from the etiological and diagnostic standpoint. In the short time at my disposal it is impossible for me to discuss all the points brought up in Dr. Jay's paper, so shall confine my remarks to only one phase of treatment, a type that has not been considered today, but it seems to me a very logical method of handling these cases, I refer to cystoscopy and ureteral catheterization with pelvic lavage. Cystoscopy is not the bugbear it once was considered to be. Today we can make cystoscopic examinations and ureteral catheterizations on youngsters regardless of age as easily as on adults. When an abscess exists in any other part of the body the treatment is drainage. Therefore when there is an accumulation of pus in the kidney pelvis the correct treatment is to establish drainage, and this you can do very easily by introducing a ureteral catheter into the kidney pelvis, either aspirating the pus through the catheter or permitting it to drain through it. You no doubt have been lead to believe that ureteral catheterization is contraindicated in acute pyelitis. This is not so because in my experience with the acute cases where catheterization and kidney lavage have been done the results are quite spectacular as there is within twenty-four hours a rapid drop in temperature and usually within forty-eight hours the patient is very much improved in every respect. I will admit that these patients, I am referring now to the acute cases, as a rule get well under the ordinary treatment of bed rest, medication, etc., but where you have a patient that does not respond to these measures and who is extremely ill, this is the type that I feel more drastic measures should be taken with. Chronic cases of pyelitis which have existed

for a long time, throwing down showers of pus cells, and no progress has been made with the usual method of treatment, it is my opinion that all such cases should be hospitalized and a complete cystoscopic examination, blood examination for urea, functional test and cystogram should be made to determine definitely the condition presenting especially the anomalous conditions that are so frequently overlooked. We know from statistics taken from many of our large pediatric hospitals diagnosis of these anomalous conditions have been made only at post-mortem, and exist more frequently than we have been lead to believe. It seems unfair to these little patients not to give them the advantage of all the diagnostic methods that we have at hand, by so doing be able to institute proper treatment, either medical or surgical as the case may be. So I feel that it is time that we get away from the idea that cystoscopic examination, ureteral catheterization and pyelogram are only aids in diagnosis and treatment for the adult, because today with the improved types of scopes and catheters that are available, this can be done very easily and without any danger, incidentally give these little folks a chance for more speedy and complete recovery.

KIDNEY INFECTIONS IN CHILDHOOD FROM THE EYE, EAR, NOSE AND THROAT VIEWPOINT*

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The relationship of diseases of the eye, ear, nose and throat to infections of the kidneys in childhood is a large subject and in the time allotted there is much that must be left unsaid. One's interest in this subject is largely confined to causes and effects, and as such crystallizes itself into a discussion as to the role that foci of infection play in their effect upon distant organs.

THE EYE

As a causative factor ocular inflammations, suppurative and non-suppurative, acute and chronic, have practically no effect upon the kidney conditions under discussion. The one exception is possibly chronic dacryo-cystitis. This is mentioned only for its theoretical possibilities for the writer has never seen it associated with renal infections. Metabolic changes, often termed nephritic because of the prominence of kidney symptoms, frequently affect the eyes in the adult. It is, however, in the presence of vascular changes that ocular pathology occurs.

Retinal disturbances, hemorrhagic and degenerative, are dependent upon changes in the blood-vessels. The insidious onset of nephritic conditions in the adult, often the result rather than the cause of cardio-vascular disease, may give the ophthalmologist the opportunity to be the first to call attention to metabolic changes affecting the functions and structure of the kidneys. Fundus lesions are not true indices of the condition of the kidneys. Vascular changes rarely accompany kidney infections in childhood, and in the same proportionate degree do we have an absence of ocular lesions.

The edema of the eye-lids is not an ocular condition. The peculiar laxness of the subcutaneous tissues in this locality simply offers the opportunity for an early manifestation of a general condition. When fundus lesions accompany kidney inflammations in childhood they are indicative of a more chronic state of disease.

To summarize, the eye is not an important element to be considered either as to cause or effect in its relation to kidney inflammations in childhood.

FOCI OF INFECTION

The ear, the nose, the nasal accessory sinuses, the rhino-pharynx, the pharynx and the pharyngeal tonsils have, by clinical demonstration, gained a prominent position as factors influencing general health. They are capable of harboring pathological microorganisms of greater or lesser virulency. As such we speak of them as foci of infection. Just how they affect distant organs is not always clear. The term, foci of infection, is used rather loosely for literally it assumes the transference of the microorganisms to distant parts and in a demonstrable dosage. The focal effect may be more that of toxemia where minute doses of a toxin or poison elaborated at the focal site and transferred to a distant organ is responsible for the latter's disease. Again the production of an allergy on the part of the individual or some of his organs due to some bio-chemic change at the focal area may be the important element.

Our primary interest is in the results obtained by the removal or eradication of focal areas. The immediate improvement that may follow such procedures without due regard for the relapses and many failures is responsible for an unwarranted optimism. The status of foci of infection is not entirely proven nor is it a simple one. Many individuals harbor virulent microorganisms in definite foci, yet remain in apparent good health. Many persons, particularly in childhood, while harboring virulent microorganisms become

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ill and recover though still retaining their infective foci. Again surgical foci are removed and the individual does not recover. The attempt is made to explain these variations by the rather vague term, the individual's resistance. The organism, demonstrated in a definite focus, may or may not have anything to do with the diseased condition of a distant organ. We have no means of deciding this before the removal of an infected focus, and if improvement follows we can not deduce that it was simply a case of cause and effect.

Permit me to digress for a moment from the immediate subject, but to one equally applicable, to illustrate the point. Pemberton¹ reported his observations on 400 cases of prolonged arthritis in the army. As to cause, 60 per cent were referable to extreme exposure, dysentery came next and but 3 per cent were preceded by tonsillitis. In 27 per cent there was an absence of demonstrable foci of infection, while 73 per cent had definite foci of infection in the teeth, tonsils, accessory sinuses and genito-urinary tract, either alone or in combination. Forty-six per cent recovered in the presence of and while retaining their surgical foci; 16 per cent showed improvement following the removal of a surgical focus or foci.

Particularly is this true of infections of the kidney to foci of infection. The problem is largely a metabolic equation. Foci of infection within the province of the head specialist may be a large or small factor in this equation. Until we have more definite rules of prognostic measurement, the removal of foci of infection must be done more or less empirically as a process of elimination predicated on the fact that some people have been helped by such procedures.

The beneficial results of the removal of foci of infection upon distant organs is, generally speaking, in proportion to the acuteness of the condition in the affected organ. Kidney infections or toxemias in childhood are largely of the acute types; therefore, as might be expected, the elimination of surgical foci in childhood gives better results than in the adult.

One who confines himself to the head specialties and collaborates with the internist, assumes a definite responsibility. The results of his surgery are partly his responsibility; he is more than a carpenter to whom has been assigned a certain mechanical job, and it behooves him to acquaint himself with the patient's condition and his status as a surgical risk.

S. W. Clausen² who divides the nephritides of children into two general classes has given us

an excellent practical differential classification which is an aid to the oto-laryngologist.

	GLOMERULAR OR HEMORRHAGIC	TUBAL OR PARENCHYMATOUS
Etiology—Infection	Streptococcus, tonsils	Staphylococcus, sinuses
Pathology—gross	Red kidney, large white kidney in cases anasarca	Large white kidney
Pathology—microscopic	Hemorrhages, Changes in Glomeruli, Fibrin.	Tubular degeneration No fibrin
Capillaries—form	Typical changes, petechia	Normal
Blood-pressure	Elevated at some time	Normal
Eye-grounds	May show retinitis	Never retinitis
Uremia	May occur	Never occurs
Edema	Variable	Maximal
Hematuria	Always	None
Nitrogen retention	May be marked	None
Blood proteins	Normal	Low; increased fibrinogen
Serum surface tension	Normal	Low
Phthalein test	Low	Normal
Mode of death	Uremia	Intercurrent infection
Response to high protein diet	Symptoms aggravated	Good

Clausen,² in reporting 129 consecutive cases from the Children's Hospital in St. Louis from 1916 to 1925, grouped 102 as of the glomerular type and twenty-seven as of the tubular type; nine of the former and two of the latter being classified as chronic. This is in institutional practice and I venture to say that the proportion of the tubular type seen in private practice will be less, for there is a marked difference in the incidence of certain types of cases as seen in private practice and those that gravitate to institutions.

There is practically a unanimity of opinion that in the glomerular type there is an intimate association with streptococcal infections, acute or retained in foci. Abt³ calls attention to the mild form of nephritis that may follow tonsillitis and otitis media, and considers the tonsils and teeth and the ears as the most prominent reservoirs of infection, and the necessity of their elimination as a prophylactic as well as a curative measure.

Clausen² in analyzing 102 cases considered chronic, upper respiratory infections as the most prominent etiological factor, 33; scarlet fever, 26; acute respiratory infections, 12; acute mastoiditis, 5; chronic sinus conditions, 4; while chronic suppurative otitis media is not mentioned. No cases were cured by nasal sinus operations but there was benefit from tonsillectomies.

Southby and Stanton⁴ in 103 cases concluded

that acute inflammations of the throat (tonsils included) were the greatest factor.

James⁵ in analyzing seventy cases found a preceding tonsillitis in twenty-two, otitis media in five, and with other conditions as possible factors in smaller numbers.

Wyllie and Moncrief⁶ found throat affections, particularly associated with streptococci, predominating as precursors of acute nephritis in children, and with tonsillitis, with or without an accompanying otitis media as the commonest form present.

These are but a few reports taken from a very voluminous world literature that ascribes to the upper respiratory tract and particularly to the faucial tonsil a predominate position, that in some way is a factor in a general disorder characterized by prominent kidney symptoms. Clinical experience has proven that, generally speaking, these patients are good surgical risks and that the eradication of the streptococci from their hosts in the upper respiratory tracts, the ears included, often has a beneficial effect, but in proportion to the chronicity of the systemic disorder.

Tubal or parenchymatous nephritis in children which may complicate the glomerular type, without the reverse being true, is fortunately an unusual condition met with in private practice. The kidney symptoms are but part of a general metabolic disorder, in fact the edema is not definitely related to the kidney pathology. The association of nasal accessory sinus disease with this condition has received its greatest impetus in our midst, at Washington University and at the University of Iowa. Tubular nephritis is more insidious in its onset, and this is in accord with the manner in which foci of infection in the nasal accessory sinuses may be expected to operate. The infrequency of the cases with the limitations of private practice precludes worth while individual opinions and the ultimate decision as relating to cause and effect will have to be left to institutional research workers. At present they are not in accord.

S. W. Clausen⁷ reports the eleven cases of parenchymatous nephritis admitted to the Children's Hospital in St. Louis from June, 1921, to February, 1924, and in all the diagnosis of nasal accessory sinus infection was made. Three left without adequate treatment, four recovered after improvement of the sinus condition by surgical means, two died from streptococcal infections, one peritonitis and one septicemia, one died from cardiac failure a year later being relieved from his parenchymatous symptoms, and one was still under observation with some improvement noted.

The staphylococcus aureus and staphylococcus albus were the organisms most frequently obtained from the sinuses.

A. J. Cone⁸ reported from the University of Iowa three cases of parenchymatous nephritis in infants and young children and all showed paranasal sinus disease; with the improvement of the nephritic condition being dependent on the improvement of the paranasal sinus disease. The five cases that he also reported of pyelitis, also showed paranasal sinus disease.

There is not, however, unanimity of opinion regarding the intimate association of paranasal sinus disease with nephrosis in children.

G. L. Boyd⁹ reports the careful investigation of the sinuses in five cases and in only two could a nasal sinusitis be diagnosed. His conclusions were that the kidney changes were degenerative due to a metabolic toxemia; that nasal sinusitis was found as often in other types of nephritis; that the staphylococcus is the most common organism associated with the condition, but not the only one; and that the etiology is still obscure.

W. C. Davison and R. Salinger,¹⁰ from Johns Hopkins, conclude that tubular or parenchymatous nephritis in children is a clinical and pathological entity with an unknown etiology, and were unable to directly associate nasal accessory sinus disease with the nephrosis.

PYELITIS

Pyelitis presents the unusual phenomena of the predominate organism not being considered the causative agent. The primary invader results from an infection elsewhere, very often in the upper respiratory tract, and then is overwhelmed by the secondary invader, the colon bacillus.

W. C. Sterling¹¹ observed 175 cases of pyelonephritis. Fifty per cent had a definite tonsillar infection, 21 per cent abscessed teeth. The streptococcus and the staphylococcus were the chief primary organisms. Reports from other clinical observers confirm the intimate association of the condition with the upper respiratory tract and particularly with the faucial tonsils. Benefit is often derived from the removal of the faucial tonsils whereupon nature, unaided, may then remove the secondary invader, the colon bacillus.

THE TONSIL

There has been an indiscriminate removal of the faucial tonsil which is not to the credit of scientific medicine. Time does not permit a discussion of the function of the tonsil. It has a demonstrable germinal center and produces lymphocytes. This is one reason for keeping a healthy tonsil in a small child. Brilliant as have

been the results from removing diseased tonsils, their elimination is not a panacea for children's ills.

L. W. Dean¹² once stated a number of years ago that the removal of tonsils and adenoids in the presence of nasal sinus disease in children was sufficient in 80 per cent of the cases to cause disappearance of the sinus infection. Later observations by others would not tend to confirm this statement. J. J. Shea¹³ even reports a greater incidence of sinus disease in children who have had their tonsils removed. E. C. Mitchell¹⁴ in observing 145 cases of sinus disease in children, noted that 106 had previously had their tonsils and adenoids removed. These quotations are given, not to contend that diseased tonsils should not be removed, but rather that in children only diseased tonsils should be removed.

What tonsils are to be removed? A tonsil may be diseased without any history of tonsillitis and a tonsil that gives little evidence of infection by physical examination may give a history of recurrent tonsillitis. Therefore a negative history or a negative physical examination cannot by itself give the faucial tonsil a clean bill of health. A child with large obstructive tonsils may give no local indications that they are serving as foci affecting general health. Their removal is indicated purely from a mechanical standpoint, but following their absence the improvement in general health is more than can be explained, simply by greater respiratory ease. The small tonsil is frequently a greater menace. The reddened anterior pillar, even without the tonsil itself taking on a deeper color, is indicative of chronic tonsillar infection. Inspection alone is not sufficient; pressure made so as to partially evert the tonsil may bring to the surface purulent material which the laboratory will generally report teeming with streptococci. Cheesy material retained in open crypts is not so significant. Tonsillar stubs following previous operations may be more deleterious in their effect than was the entire tonsil. Fistulous tracts, formed in the healing of the tonsillar fossa after operation and with cystic formation at the bottom of the tract, demand removal.

The tonsil which may pass local inspection and physical examination may have deep abscesses within its stroma, which will be found more often near the outer wall and give no preoperative indication of their presence. Clinical evidence supports a close relationship of the faucial tonsil with inflammations in distant organs. Do not remove the tonsils in a healthy child who gives no history of throat inflammation and whose tonsils

give no physical evidence of disease. Remove, as a prophylactic measure, the tonsils from a child who is well and whose tonsils are negative to examination but who gives a history of two attacks of tonsillitis.

Remove, for the same purpose, those tonsils which give definite physical signs of being chronically infected. In the presence of an acute hemorrhagic or glomerular nephritis, diseased tonsils should be removed and if the case does not show rapid convalescence and other possible foci have been eliminated the tonsils should be removed with this as the sole indication.

The same rules apply to pyelo-nephritis.

The more acute the condition, if definitely associated with a focus, the greater and more immediate the relief obtained by the removal of that focus. Involvement of the glands in front and behind the tonsil and in the submaxillary region lessens the immediate benefits derived from a tonsillectomy. Poor results are in direct proportion to the chronicity of the process in the distant organ. Tonsillectomy, to be the most effective, must be not only complete but should include extratonsillar lymphoid tissue located in the lower pole between the faucial and lingual tonsils. Likewise extra tonsillar glandular tissue often located in the dome of the tonsillar fossae should be removed.

NASAL ACCESSORY SINUSES

The recognition of the incidence of nasal accessory sinus disease in infants and young children is a recent development in medicine. Quoting K. A. Phelps¹⁵ in 1917, "Records of the Manhattan Ear and Throat Hospital for the past few years show but twelve cases of proven nasal sinusitis in children. It would therefore seem that sinusitis is not a common disease in childhood". Yet Marriot¹⁶ in 1925 stated that in his wards more than one-half of the children were under treatment for some form of paranasal sinus infection.

The paranasal sinuses do not have a profuse blood supply and absorption from them is usually a sluggish affair. Chronic nasal sinusitis may exist without subjective localizing symptoms referable to the sinuses themselves. The greatest problem is the exclusion of the existence of paranasal sinus disease. The recognition of the existence of the disease in private practice will be far below that observed in institutional practice. This is due first to the type of child that gravitates to an institution for observation and treatment and secondly because of the greater difficulties in private practice of obtaining the repeated examinations so frequently necessary.

Quoting L. W. Dean,¹⁷ "Our methods of diagnosis are so unsatisfactory that it is only by exercising the greatest patience and making one examination after another, etc." Further quotation,¹⁸ "A very essential thing in treating chronic nasal sinus disease in infants and very young children is to have the patients in a hospital or convalescent home. I can only satisfactorily diagnose and treat a child of five years or younger by hospitalizing it. The giving of treatments in the absence of solicitous friends or the parents is very essential". The smaller the child the more difficult the examination and a general anesthetic is more often a necessity. This all makes for a vast difference between private and institutional practice.

The past history as to the acute infectious diseases of childhood, pneumonia and particularly influenza is important. The general condition of the child as to vague poor health and poor school progress, and as to whether he is of the lethargic type or of the extremely irritable and hypersensitive type should arouse one's suspicions as to a focal condition.

In the acute sinus disease there is fever, general malaise and, as a rule, manifest local symptoms, but in the chronic cases careful inquiry for suspicious symptoms is often necessary. The history of frequent or chronic colds, so-called stuffiness of the head, and mouth breathing (in the absence of the high palatal arch and the tonsils and adenoids) should direct attention to the nasal sinuses. Likewise frequent sneezing and asthmatic like attacks. A muco-purulent discharge from the anterior nares is self-evident but one that escapes posteriorly is not recognized by the parents and only by inspection may it be seen clinging to the posterior pharyngeal wall. The ordinary anterior nasal examination may reveal boggy turbinates or a secondary atrophy that is suspicious. Chronic nasal sinus disease does not always mean pus and in such cases the appearance of the pharyngeal wall is particularly significant. If the tonsils and adenoids have been removed, has the pharyngeal wall lost its normal smooth, pale appearance or it is reddened and rough with an hypertrophy of lymph follicles and with a hyperplasia of the lateral bands immediately back of the posterior pillars? This is rather indicative of sinus disease. Do not expect headaches as a symptom in a child under eight years of age.

Nasal examination, after shrinking the tissues and even with suction, may not reveal pus and yet sinus disease may be present. The x-ray is most valuable, first, by confirming one's suspicions of

pathological changes in the lining membranes and secondly, it is the one means by which we can outline the maxillary antrum and know whether it has attained a surgical age. Knowing the latter we can then puncture the maxillary antrum and wash it with sterile water. Clean washings may, on culture, yield pathological organisms. With the diagnosis established, what is the status of the nasal accessory sinuses in their relation to kidney infections and toxemias?

Simply that of any other focus. Clinically its elimination is desired, not that we may be removing the sole cause of the kidney disease, but rather that we hope to make a break in the chain that is responsible for a faulty metabolic condition. This is desired even though the sinus disease may be one of the results of the disturbed metabolic state.

We cannot extirpate the sinuses as we do the faucial tonsils. We would not if we could, for the sinuses develop by a peculiar but simultaneous osteoblastic and osteoclastic process. We are without a satisfactory explanation as to their function, but the fact remains that they are air chambers and their aeration is the first essential. Fortunately we rarely have to consider the frontal sinus due to its late development.

The chronicity of the sinus disease is of shorter duration than in the adult and the tissues involved show changes that are more amenable to resolution if given the opportunity. Children present fewer anatomical obstructions due to the septum and turbinates. The average diameters of the ostia of the sinuses in childhood are relatively larger than in the adult. Conservatism as to treatment is the first essential. The above facts give this conservatism a better chance for success than in the adult.

Aeration of the maxillary antrum by an opening through the outer wall below the inferior turbinate, the maintenance of the opening as by a rubber tube is usually all the surgery required. Evisceration of the mucous membrane lining the antrum by radical operation is rarely indicated. Radical surgery of the ethmoid region is the greatest exception. Treatment by shrinkage of the tissues, syphonage with only the mildest of solutions followed by the local pack or instillation of some of the synthetic silver preparations is the usual procedure. Occasionally the anterior ethmoidal cells may need to be penetrated to promote aeration.

Treatment of the sphenoidal sinus is limited to maintaining its ostium with perhaps the injection of some medicament into the sinus.

It is to be remembered that improvement in

the sinus condition is attempted, not because the general ill effects are due solely to absorption through the mucous membrane lining the sinus cavity, but as much to eliminate the infected sinus secretions passing through the nose to the nasopharynx and pharynx. In the latter localities the blood and lymphatic circulation is greater and, though involved secondarily from the sinuses, they may be the immediate means by which organisms enter the circulatory system and thus affect distant organs.

Children suffering from chronic sinus disease do not come primarily to the rhinologist and it is generally only when the internist is awake to the possibilities that the sinuses may be a factor, that these areas will be investigated.

THE EAR

Acute and chronic suppurative conditions of the ear exist without any ill effects on general health but this does not permit the deduction that they always exist without some definite relationship to infections and toxemias of distant organs. In fact, clinical experience and statistical studies based upon the same and published by many observers confirm the theory that the association of nephritis in children and suppurative otitis media is far more than coincidental. The eradication of the aural suppuration as a prophylactic measure and in the presence of nephritis, providing the patient is a good surgical risk, is justified by a sufficiently large number of successes. The free blood supply of the tympanum gives ample opportunity for the transference of virulent organisms through the blood stream.

CONCLUSIONS

So-called foci of infection demand eradication. Clinical experience has proven the value of their elimination. Lacking definite means of measuring the so-called resistance of the individual and as to whether the child with some form of kidney infection is susceptible to a certain focus, we eliminate it empirically and will have many improvements and a fair share of failures in relieving his metabolic unbalance.

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Discussion

Dr. Royal F. French, Marshalltown, Iowa—

This is a most excellent paper and shows much thought. Such a paper cannot be prepared unless the author has given the subject much time and careful study, and this Dr. Harkness has certainly done. I wish to stress Dr. Harkness' statement that "the problem is a metabolic equation", with variable changing factors. Our common knowledge, empirical or otherwise, has taught us that infection does play a large part in nephritis in children. We recognize the large per cent of cases of nephritis which have sinus trouble and are benefited by drainage of the sinuses. The same in tonsillar infection, and the tonsils are removed. However, the factors of our equation are not complete until we can answer why it is, that from the large number of sinus and tonsil infections in children we have so few renal complications. That there is a metabolic imbalance we realize, but why it is that in the one individual the threshold of metabolism is lowered and the kidney suffers, while in another with the same type of infection, there is no kidney involvement. These factors will unfold themselves as we further study the systemic reaction to infection. We must, as the essayist says, leave many of the final facts to the institutional research workers. We in private practice see the occasional case which often responds very markedly to our particular treatment or operative procedure. Such a response may give us a biased opinion from which we derive data which further research does not sustain. According to the views of Helman in tonsillar infections, the reaction to a pathogenic organism takes place in the tonsillar follicles, while the tonsillar tissue itself may not be changed. It is probable that in a large per cent of the cases, the tonsil or sinus is the origin of the general infection, and these are the cases in which the greatest benefit is derived by the elimination of the local infection. But it is also probable that a general infection may precede, and so secondarily become localized in the tonsil or sinus. If we now eliminate this local foci by removing the tonsils or draining the sinuses, it does not

greatly change the general infection. The highest type of medical treatment calls for the eradication of all foci of infection, although in following the idea we do not always obtain the desired end. We may have failures because we find no demonstrable foci of infection, but as our diagnostic methods improve, these foci will more certainly be located, and so eliminated. Thus our percentage of successes will be increased.

Dr. Joseph Brennemann, Chicago—We have listened to some very excellent papers, and I hope we all appreciate what may be had from them; on the other hand there have been presented many facts bearing upon the entire subject discussed, and perhaps it might be well for one with longer experience than any of those who have thus far spoken to summarize the subject as it looks to an older man who finds himself indulging in reminiscences. Some twenty years ago I saw a little babe with high temperature, chills, and was very pale, but did not look so awfully sick in that she was not very toxic. The temperature lasted about a week. I was then still in the intestinal period—that is, I thought everything a child had ought to have something to do with the intestines. So I treated the patient from that standpoint. The child recovered, but after a time had another attack, and the subject was changed to enteric fever or something of that sort. Finally in one case the people thought perhaps I was pretty young and that possibly a change of doctors would be better than consultation. Dr. Abt was called and the child pursued the same course she would have done if I had continued to see the case. That was a little girl about six months of age. This was not an intestinal case. At that time a good deal was said about pyelitis in female infants. I myself wrote a paper on this subject and it was not so bad even from the viewpoint of today. We had not looked upon the trouble as due to ascending infection, because for a long time a great deal of evidence had been presented to show that these infections were not ascending in character, but that they came either through the blood stream or by way of the intestinal tract. But they all had colon bacillus in the urine and all occurred in girls. After a number of years I saw one case in a boy. That was the old type we do not see as much of as formerly. However, we still see them occasionally, and practically always they occurred in very young girls. Then about fifteen years ago there began to be reports of pyelitis in boys, * * * reporting something like twelve to twenty cases that occurred in his institution. They are found fairly commonly in wards, not much in private practice. There are two types of infection of that sort: First, the kind to which I have just referred; second, the type that comes with parametrial infection, and which we see most frequently with respiratory tract infections. Even with respiratory tract infections there are two types of pyuria (I would not say pyelitis because I cannot distinguish between these different things except by post-mortem)—to my mind there are two true

types: First, those cases in which we find some pus in the urine and which occur in connection with a parametrial infection and as this disappears the pyelitis clears up. Second, the type with severe infection in which the pyuria is only part of a general infection which usually causes the child to die because of abscesses in the kidney. For obvious reasons those occur just as commonly in boys as in girls. I think therefore it is not proper to say that pyelitis develops more frequently in the girl than in the boy. Why the colon bacillus is there I do not know. In recent years we have progressed to the point where we have become much more interested in the mechanical conditions. We like to have the urologist close at hand. Formerly we called these specialists genito-urinary men and sent them just a certain kind of case; now we call them urologists, and they are the best friends we have. We send them cases we cannot cure. To sum the whole question up from that standpoint, I would say this: There are two main types: First, the small female child in the diaper age, with short urethra, evidencing the type of infection to which allusion has been made and with the cardinal symptoms referred to always present. Second, the type that occurs with parametrial infections. In the first class of cases one can use alkalies, urotropin, water, etc., but, after all, these patients get well. It is interesting to follow the ideas Helmholtz has had. At first he used alkalies, which did not do any good; water was the only thing that did good. About two years ago he employed urotropin, but it is probable that no one thing helped so very much. Severe parametrial infections are not helped much by treatment of any kind. If pyuria is part of a generalized infection then it does not make much difference what one does because we cannot do anything to the kidney under those conditions. In recent years we have been very much interested in the obstruction side of the question. Dr. Jeans has spoken especially well of this phase of the subject. I do not believe that all pyurias necessarily require an obstruction, but I believe that cases of obstruction are much more common than formerly believed. Probably no other tract in the human body has as many anomalies as the genito-urinary tract. Some one may say—we should detect the condition before cases come to post-mortem. We appeal to urologists and keep them busy because we believe there is a tremendous side to this question. Obstructions of the urethra do exist, not so much because of stones, I have never seen but two cases of stones in children; but these other anomalies are very common and extremely difficult to diagnose in advance. I myself have never seen a pyelitis, I have never seen a hemorrhagic nephritis, that I thought was due to a sinus or a mastoid. My idea of pyelitis or hemorrhagic nephritis in these cases is that the condition results from the original infection, and it is absolutely impossible for an otolaryngologist to say—this sinus is the cause of the condition, and if the results follow after it you can say the child would have re-

covered anyway. We have had something like 150 cases of hemorrhagic nephritis and in practically none of them have we believed the infection to be due to a sinus or to a mastoid, and nearly all of them have recovered. The same applies to pyelitis. I think the infection of the kidney is due to the primary infection and not to the sinus. I believe that practically every child that has a severe upper respiratory infection has a primary infection back of the trouble. I think nearly all with otitis media have mastoid involvement, but when we find these things, we cannot say that this is the etiologic factor in that particular case. In the majority of cases it is the primary infection that is back of them and not the sinus that eventually appears.

"SCHOOLSICKNESS"*

JACK V. TREYNOR, M.D., Council Bluffs

In "schoolsickness" I have coined a name to describe a condition which is becoming more and more a specific problem for the man who is working with children. All are aware of the condition, though perhaps not all are willing to fix the cause as definitely as I. Whether or not "schoolsickness" can be said to exist as a definite disease entity, it certainly does exist as a background for many personality and behavior problems of the school child, and is responsible for a very large class of nutritional upsets.

"Schoolsickness" is characterized by nervousness, which is manifested in anxiety, restlessness, irritability and a highly emotional state. The child usually has a poor appetite. He sleeps poorly and may be subject to night terrors. He is underweight. All of these symptoms will be magnified if any truly organic disease be present. All are aggravated by the approach of any school crisis, such as examination, athletic contests, or inspections. One often wonders if these youngsters are not the victims of endocrin disease so strong is the suggestion of a driving force at work. Naturally the condition is seasonal, becoming more pronounced as the school term advances and usually improving greatly during vacation periods. Sex has little influence, boys and girls being equally exposed. Temperament and innate physical stamina are the factors which determine to what degree a child will develop "schoolsickness". Of course there is no demonstrable pathology, except in-so-far as we are willing to accept emotional states as being pathological.

If we accept "schoolsickness" as a fair term for this condition we must demonstrate that the school is responsible. This I hope to do.

Unfortunately, at the present time, some of our schools are being used as proving grounds for theories that are scarcely more than theories. The system seems to use a science of teaching the subject instead of teaching the child. Each child, regardless of native intelligence or special aptitude must be taught certain subjects in definite sequence at a specified age time, and must be able to reproduce his teachings in standardized fashion. On his ability to do these things, he is graded. On her ability to show on paper that the greatest number have done these things his teacher is graded. And so on, through principal, superintendent and school system as a whole. Reverse the list. The superintendent demands better statistical records from the principals, the principals from the teachers and the harassed teachers from her pupils, of whom she has so many, that they soon have drained her of patience and sympathy. This competitive system might work beautifully were it not for the fact that all students can not, because of native differences in intelligence and temperament, compete upon so artificial a basis. This system takes no note of the fact that a child may be competent in one direction and incompetent in another. It deals in averages only. It is quick to reduce the child to the level of his lowest accomplishments, but is slow to advance the superior child to a level which will stimulate him to continued interest. It creates in the individual the pressure of lost interest, dissatisfaction, often of shame.

The most unfortunate aspect of this competitive system is that the youngster is required to compete in circumstances favorable to but one type of individual. To the child, all emphasis seems to be upon speed. Deliberation, so necessary to sound judgment seems to be penalized. Accuracy seems of less importance than dexterity. Minor details seem given emphasis so completely out of proportion as to make impossible lucid performance of a problem. In spelling, for instance, the knowledge that failure correctly to indite a word is equivalent to misspelling it, has made the whole subject a bogey. So much so, that not a few youngsters greet even minor spelling quizzes with sharp emotional upsets. Achievement tests, so dear to the student of education, bring panic to the schoolroom. I have in my care several youngsters, whose fear of these approaching tests so weighs upon them as to cause a minor hysteria. Whether or not these tests are the criteria by which the child is graded,

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is not important to the child. He supposes that such is the case and reacts accordingly. Resentful, bewildered, fearful of these stumbling blocks which seem especially invented for his downfall, our youngster is prodded on. He must rank "one". His room must rank "one". Learn, he may, but produce, he must.

Pressure as constant and unescapable as this has but one result. Fear of failure or a natural competitive attitude keeps the child at constant tension. He "lives" his school. He is feeling early in his life pressures no less severe than those from which too many adults are "cracking". If he is not of phlegmatic temperament; if his home situation does not perfectly buffer his school experience, he will to some degree develop the emotional breaks that we interpret as "schoolsickness". His school has become an obsession. His meals suffer from haste. His sleep is disturbed by worry. Thought of enforced absence is met with dismay. He has become a miniature adult without the adult's toughness of fibre.

The pity of it all is that the effort of the school authorities to ameliorate this pressure has defeated its purpose and has served only to add to the prodding process. Supervised, competitive play offers no relaxation, no break in enforced attention. Extra curricula activities occupy the youngsters' normal play time. Music, athletics, forensics, all supervised and all competitive, appropriate any time left from routine study.

I think of these youngsters as energy bankrupts. They are spending much and saving little. Their desire to keep up with the Jones, whether it be spontaneous or acquired through pressure, carries them swiftly into crises which they cannot meet. Just as the potential bankrupt borrows from every source, so does our youngster borrow from his pride and grit, enough to carry on, sometimes to a fairly successful conclusion; often enough, to an emotional crash.

So much for the school. Probably there would be few children seriously damaged emotionally by such a system if each child were fortunate in his home situation. Too frequently, however, one of two attitudes exists in the home. The parents are ambitious; concur with the teacher in her desire to have their child rank "one" and are intolerant of his growing confusion. As a rule, they put their child's condition down to "nervousness" and are only alarmed when the youngster develops frequent emotional upsets and definite personality and behavior changes. In the other type of home, we see a pronounced antagonism

toward the school and its "foolishness" which is reflected in the child. Our youngster, critical of all his experiences and sure of parental sympathy, is not long in developing some degree of "schoolsickness". In both cases a little cooperation between parent and teacher might have greatly ameliorated the condition.

The treatment of "schoolsickness" in the individual is rather a large undertaking, though not impossible. It consists largely in an analysis of the situation, as regards physical condition, school, home control and outside activities. Success then depends on the degree to which disturbing elements can be eliminated or compensated for.

It seems to me, though, that the condition concerns us in its larger aspects. Though the medical profession can never correct the school situation singlehanded, it can add its voices to those of a few who are pioneering in the educational methods which will eliminate this condition.

Inasmuch as it seems impossible to obtain more money for our schools, a way must be found better to use available funds. I believe that the first step must be to rid ourselves of the delusion of educational democracy. The day that we cease to believe that every child must have identical educational opportunities will mark the beginning of a sound system. We have already at our command, means through which we can estimate a child's intellectual possibilities. Why penalize the superior child in the matter of opportunities when his sacrifice is patently of no advantage to the inferior. Would it not be better for all concerned if the inferior child were taught subjects within his comprehension which might later become a means of self-support? And at the same time, the superior child be allowed to fulfill his intellectual possibilities? We accept willingly enough that a child may be competent in one direction and incompetent in another. Why not let him capitalize his superiority instead of allowing his inferior side to dominate him? Ungraded classes, supervised by well-chosen, well-paid instructors would solve this problem. Why, when we know that a child's inferior school production is due to a definite physical disability, do we not eliminate that physical handicap, or compensate for it by insisting on competent medical treatment and by installing special physical equipment? In other words, let our first concern be that the educational system fit the child, not that the child fit the system. If we are to give children a chance to develop naturally and happily, we must lighten the strain of fear, anxiety, and worry imposed upon them

by the competitive system. Perhaps the time will come when a child's report card will be marked only "satisfactory" or "unsatisfactory". "Satisfactory" will mean that the child is doing as well as we might normally expect him to do, taking into consideration his age, his health, mentality, degree of social adjustment in the school room and his emotional poise.

In order to make such a scheme workable, healthy, enthusiastic, and above all, sympathetic instructors must be employed. These qualities must be emphasized even above training background (until we have learned what training really qualifies an individual to be a good teacher). Above all, we must rid our schools of those instructors to whom the school represents but a means of livelihood. But until we have arrived at this millennium let us eliminate the one great evil in today's system: pressure. More leading and less driving: Less stress on competition; more on honest effort; less supervision, more spontaneity, these are the means through which schoolsickness will cease to exist.

PRESENT STATUS OF SERUM THERAPY IN SCARLET FEVER*

LEE FORREST HILL, M.D., Des Moines

The purpose of this paper is to present to this society as accurate an estimate as is possible of the present status of scarlet fever from the point of view of its diagnosis, prevention, and treatment by means of the various sera that have been developed in recent years.

An enormous literature is available, and the opinions expressed therein vary from enthusiastic support to doubtful pessimism.

Sufficient time has not yet elapsed to settle many of the questions involved, and certainly definite conclusions should only be drawn from the reports of individuals of large experience where all factors have been taken into consideration.

Almost everyone agrees now that the hemolytic streptococci are the cause of scarlet fever. It is probable that there are several strains of these organisms capable of producing the disease, and that the antibodies of one strain may not be specific for the toxin of another strain. A parallel to this is seen in epidemic meningitis. Such a viewpoint is necessary to explain some of the results secured by antitoxin treatment.

The toxic-antitoxic nature of scarlet fever is also generally accepted as having been proven beyond a doubt. Hemolytic streptococci growing in the throat produce a soluble circulating toxin which is responsible for the rash, fever, vomiting, and other toxic symptoms characteristic of the first four or five days of the disease. Neutralization of the toxin is accomplished by antitoxin and recovery ensues. In the great majority of cases of scarlet fever this constitutes the entire disease picture. Unfortunately, however, the neutralization of its toxin does not prevent the hemolytic streptococci from further invasion of tissue as is the case in diphtheria. Practically all the complications of scarlet fever are due to spread of the bacilli themselves. Thus, otitis media, mastoiditis, cervical adenitis, sinusitis, and septicemia are due to the presence of hemolytic streptococci in the involved tissue. Up to the present time there has been developed no antistreptococcic vaccine or serum which has any constant, proven, specific effect upon any of the streptococcic infections. It should be clearly borne in mind then that scarlet fever antitoxin exerts its influence only in the toxic phase of the disease. Septic processes once started will proceed unmodified by the presence of antitoxin. Since it is the septic complications that produce the majority of deaths in scarlet fever it is reasonable to suppose that the mortality rate of the disease will not be greatly effected by the use of antitoxin. The subject will be referred to later when the use of antitoxin is considered.

Having discussed the etiology and nature of scarlet fever I should like now to take up the various sera that have been developed in connection with the disease. The special processes to be considered are the Dick test, the Schultz-Carlton blanching test, active immunization by means of naked toxin, active immunization by means of ricinoleated toxin, passive immunization by means of antitoxin, and the treatment of scarlet fever by means of antitoxin.

First the Dick test. Of it, Park¹ says, that in his opinion it is almost but not quite as reliable as the Schick test. This I think is a fair expression of the general viewpoint.

Dick² warns that to be a reliable means of determining susceptibility to scarlet fever the test must be correctly made and interpreted, and the material properly prepared and accurately standardized. He says that "in a series of 30,000 skin tests, including all ages, 40% were positive and 60% negative. No case of scarlet fever occurred in persons with negative tests, and 48 cases have been observed in persons who had shown

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positive skin tests before exposure to scarlet fever". Lees³ on the other hand reports that at the onset of symptoms in 48 cases of scarlet fever the Dick test was negative in fifteen cases, and he refers to a similar series reported by Silcock⁴.

In the comparatively small experience that I have had with the Dick test I have the feeling that it is to be relied upon to select the susceptibles from the immunes in most instances, although I have not reached the point where I am as confident of it as I am of the Schick test. It should be emphasized that the test is entirely for the purpose of determining susceptibility to scarlet fever and is not a diagnostic agent.

The Schultz-Carlton blanching test is generally conceded to be a reliable diagnostic aid. The test consists in the intracutaneous injection of 2/10 of a c. c. of convalescent serum or of potent scarlet fever antitoxin at a point where the rash is thickest. If scarlet fever toxin has produced the rash, it will be neutralized by the antitoxin in from 18 to 24 hours causing the rash to disappear in the immediate vicinity of the injection. The local blanching is best seen by standing some distance away from the patient. In typical cases of scarlet fever the test is very striking, but in those cases with a meagre rash, where help is most needed in making a diagnosis, the contrast may be so slight as to be of doubtful recognition.

Active immunization against scarlet fever is still in an experimental stage. There seems to be little doubt but that an immunity can be produced, as shown by a negative Dick test, but the duration of such immunity has not yet been established, since sufficient time has not elapsed since the introduction of larger doses of toxin.

When active immunization was first attempted the number of skin test doses employed was relatively small. Dick's⁵ first recommendation was three injections at five day intervals beginning with a first dose equivalent to 300 skin test doses and increasing to 1,000 skin test doses. Park's¹ first experiments were conducted with a total of 1,500 skin test doses divided into three injections. Both Dick and Park found that the immunity secured with such small doses of toxin was not lasting.

Since then the skin test dosage of naked toxin has constantly been increased until now the scarlet fever committee have recommended five doses of 500, 2,000, 8,000, 25,000 and 80,000 skin test doses at intervals of five days to one week. How long the immunity will persist after such large doses of toxin time alone will tell. Again quoting from Park's article¹ he says, "in a personal communication the Dicks inform me that the

injection of a total of 100,000 or more skin test doses divided in five injections produces an immunization in about 98% which lasts for at least two years".

The reactions from these larger doses of toxin are for the most part local, and compare in intensity with typhoid inoculations. French⁶ of the Milwaukee Health Department states that out of a total of 1,985 injections of Dick toxin a rash developed in three instances, emesis in forty-four, nausea in fifty, fever in eight, and local sore arm in 628. In my own limited experience I have found the reactions following Dick toxin somewhat greater than those following toxin-antitoxin, and more severe in adults than in children.

It would seem that very severe reactions might be avoided in those individuals who react strongly to the first dose of toxin, by a less rapid increase in the subsequent doses than is recommended.

The question of how extensive a program of active immunization should be undertaken by the medical profession is a pertinent one. In my own practice I have not yet advocated the general use of scarlet fever toxin because I have felt that the mildness and low mortality rate of scarlet fever in this community hardly justifies the establishment of a comparatively brief period of immunity in those individuals whose chances of becoming exposed to the disease are slight. If further experience with large doses of toxin proves that an immunity lasting over a considerable period of time can be secured, or if scarlet fever should suddenly assume a more severe form, I would certainly advocate general immunization.

It is undoubtedly advisable to immunize all susceptible persons, such as nurses and internes, who come in intimate contact with scarlet fever. Toomey⁷ says, "I am extremely enthusiastic about the results I have obtained by the active immunization of susceptible patients in the manner and according to the methods advocated by the Dicks. This routine procedure has practically eradicated scarlet fever among the resident population of our hospitals".

Children in institutions where outbreaks of scarlet fever might occur ought to be protected against the disease, and the occurrence of several cases of scarlet fever in a school, or in a neighborhood, justify toxin administration to the other children in close proximity.

When a case of scarlet fever occurs in a family, where the inmates must be more or less exposed during the period of quarantine and after-

wards, Dick tests should be done, and active immunization started on the susceptibles.

Another situation which frequently confronts the physician is the one in which the individual has had a single accidental exposure to scarlet fever. What should be done about it? In giving his advice the physician should remember that scarlet fever is not a very contagious disease; only about one out of every fifteen exposed persons contracting it. He should also remember that the average incubation period of scarlet fever is from two to five days and that therefore any method of active immunization cannot establish immunity in time to prevent the development of the disease from that particular exposure.

Larsen, Huenekens, and Colby⁸ recommend the use of toxin modified by sodium ricinoleate for active immunization against scarlet fever. Their antigen contains 3,000 skin test doses of toxin and 1,000 million killed streptococci in each c. c. One to two doses are given intramuscularly. Advantages claimed are that immunity is secured in a comparatively short time (eight days in 77 to 90% of the cases), the injections are followed by little or no reaction, the immunizing process is shortened, and an antibacterial as well as antitoxic immunity is developed. The objections raised are that the amount of toxin used is too small to produce immunity in a large enough percentage, and that if immunity is secured it may not persist over six months to a year. Park¹ found that four or five injections were required to obtain nearly 100% of immune children. He thinks it possesses no advantage over naked toxin.

If the ricinoleated antigen is used it should be carried to the point of a negative Dick test whether one or more injections are necessary, and the patient should be told of the probable duration of the immunity. The practice of giving one injection without following it up by a Dick test to see if immunity has been established, tends to produce an unfavorable attitude on the part of the laity toward all sera, if scarlet fever develops in the cases that have received the injections but have not been made immune.

In summing up active immunization the following points may be emphasized:

1. The giving of 100,000 or over skin test doses of toxin in five injections will produce an immunity to scarlet fever in practically all susceptible persons for at least two years.

2. The five injections are a disadvantage and the reactions are mildly unpleasant.

3. The Larsen antigen containing only 3,000 skin test doses of toxin per c. c. has too little toxin to produce an immunity in a high percentage of susceptibles and too little toxin to cause a lasting immunity.

4. With either method patients should not be considered immune until proven so by a negative Dick test.

5. The incubation period of scarlet fever being two to five days, prevention of disease from an exposure cannot be secured by active immunization by either method.

Passive immunity can be conferred by the giving of convalescent serum or a potent scarlet fever antitoxin. The immunity occurs immediately and lasts as long as antitoxin remains in the body, which is from two to three weeks. Convalescent serum is usually not available except in institutions. Scarlet fever antitoxin produces such severe serum reactions in such a high percentage of cases that, except in unusual circumstances, it is better to risk an attack of the disease. Such authorities as Toomey and Hoyne⁷ express themselves as being unimpressed with the value of scarlet fever antitoxin used prophylactically.

The treatment of scarlet fever with specific antitoxin has been going on for about four years. Opinions as to its value should only be taken from the reports of those who have used it in a large series of cases where control cases occurring in the same period have been available. Eley⁹ reports 465 consecutive and unselected cases of scarlet fever occurring at the Willard Parker Hospital in which 250 of the patients did not receive antitoxin. He concludes that scarlet fever antitoxin is of definite value, but that the mild and moderately sick patients do not receive enough benefit to warrant the treatment with antitoxin.

Welford¹⁰ studied the effects of antitoxin on 492 cases of scarlet fever entering the Municipal Contagious Disease Hospital at Chicago from January to June, 1928. He states that "scarlet fever antitoxin seemed to exert a beneficial effect in lessening the toxemia of scarlet fever in 60 per cent of the cases classified as toxic or severe".

In the mild and moderate cases, a favorable effect was not observable and the use of scarlet fever antitoxin in these cases unnecessarily exposed the patients to the danger of severe sero-reactions.

The incidence of complications in cases of the severe type was lower (56% as compared with

62%) in the group treated with serum than in the group not so treated.

The incidence of complications in cases of the mild and the moderate types was not lowered in the cases in which scarlet fever antitoxin was given.

Both Toomey and Hoyne⁷ feel that the mortality rate of scarlet fever has not been lowered by the use of antitoxin. They point to the fact that the mortality had dropped to its present low rate before the introduction of antitoxin, and that there has been no appreciable decline either in hospital mortality rate or general rate in the years since antitoxin has been used.

Cleveland has not had a mortality rate over 1.5 per cent since 1922. The case mortality in Providence was 0.57 per cent for 1923, and 0.76 per cent for 1924. The mortality rate for the state of Iowa was 3.9 per cent in 1923, 4.5 per cent in 1924, and 1.4 per cent in 1928. Whether or not this drop has been influenced by antitoxin I am not prepared to say. The true effect of antitoxin upon the death rate of scarlet fever probably cannot be determined until more observations are available, or until an epidemic with a high mortality rate occurs.

At the present time it would seem that the chief value of antitoxin in scarlet fever is in the treatment of severe cases. The beneficial effects that may be expected are, a more prompt subsidence of temperature, a quicker disappearance of the rash, a lessening in toxicity, and perhaps the occurrence of a few less complications.

Conclusions:

1. Scarlet fever is caused by the hemolytic streptococci.
2. Scarlet fever is both a toxic and bacterial disease.
3. The toxic phase of the disease can be influenced; the bacterial phase, once established, cannot.
4. The Dick test, with some exceptions, is a reliable means of determining susceptibility to scarlet fever.
5. The Schultz-Carlton blanching test is of limited value as a diagnostic agent.
6. Active immunization against scarlet fever is possible by naked toxin as recommended by the Dick's, or by Larsen's ricinoleated antigen.
7. The amount of toxin given and not the method used would seem to influence the percentage and duration of immunity secured.
8. Prophylactic injections of antitoxin are not advisable as a routine at present.
9. Scarlet fever antitoxin is of limited value in the treatment of severe cases of scarlet fever.

Number of Cases and Deaths from Scarlet Fever with Case Rate and Death Rate per 100,000 Population, State of Iowa, 1923-1928

Year	Cases	Case Rate per 100,000 Population	Deaths	Death Rate per 100,000 Population
1923	3,708	112.2	145	5.9
1924	1,892	78.3	85	3.4
1925	1,561	64.5	49	2.0
1926	2,124	87.7	46	1.9
1927	2,218	91.4	41	1.7
1928	3,063	126.1	42	1.7

Number of Deaths per 100 Cases, Scarlet Fever, State of Iowa, 1923-1928

Year	Number of Deaths per 100 Cases
1923	3.9
1924	4.5
1925	3.1
1926	2.1
1927	1.8
1928	1.4

10. The use of scarlet fever sera is still in the experimental stage, and extravagant claims to the laity should be avoided lest their confidence in all sera be shaken.

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Discussion

Dr. John C. McKitterick, Burlington—In order that I may properly discuss this most excellent paper allow me first to build a little background from which to review the subject. We of the medical profession literally cover ourselves with glory on the work of Park, Zingher and others in the handling of diphtheria. When, about eight or nine years ago, there came to us the first reports of scarlet fever therapy and prophylaxis along these lines, our wishes were that it would be as successful as had been the campaign against diphtheria. Our wishes influenced our judgment more than they should have done, with the result that we became a little over-enthusiastic. As the essayist states, the

present status of opinion runs from great enthusiasm to hidden pessimism; I am pessimistic not because the mortality is higher, but because I do not believe that since 1917 we have made any special progress in treatment of the disease. Let us take up the more interesting points in order of their sequence in the paper. There is no argument against the first point. The phase I wish to emphasize is the fact that scarlet fever is a toxic as well as a bacterial disease. All you do with your antitoxin is to neutralize the toxin in the case. In mild cases you perhaps brought out the rash earlier by giving antitoxin. You will also recall that Dr. Hill mentioned the fact that in the treated cases complications occurred in 56 per cent of cases, while in the untreated cases they occurred in 62 per cent. That is a difference of only 6 per cent, and 6 per cent is well within the difference of medical experience without a definite serum effect even being considered. Dr. Hill also said, and I heartily agree with him, that the toxic phase can be influenced, but that the septic processes, once started, cannot be influenced. The Dick test, with some exceptions is a reliable means of determining susceptibility, but in making this test we must be sure the material is fresh. Material that is old may or may not be good. The Dick toxin, it is true, keeps well, but its potency depends also upon the glass used in the vial as well as other factors. Be sure your Dick test material is good. The next point has to do with ability to read the Dick test. It is all right to give it if given properly, but with an ordinary artificial light you cannot read the test; daylight is essential. Then too, there is the difficulty in making a suitable control test. You may say, boil the toxin and use it for control; you can boil it three hours and yet the toxin will not be destroyed. The Dick test, therefore is a diagnostic test only it is more difficult of interpretation and is somewhat less reliable than the Schick test. I desire to speak briefly of active immunization. It is now conceded that not on what toxin-antitoxin mixture you use, but on how much of it you use, depend the amount and the duration of the immunity conferred. I think that the active detail man has led us astray. He comes into the office expansively, taking up good time, and says, "This is wonderful serum; we sell it, give your patients only two injections and they are immune." He does not say perhaps, they are immune. Not all of us have time to look up the most recent medical literature. We believe the sales talk and give this antitoxin and then later the patient comes back sick. It would be far better if we would spend more time reading articles published in reputable periodicals rather than listening to salesmen whose income depends upon how much they can induce us to buy. Active immunization is still in the experimental stage and the duration of the immunity after various methods of immunization has not yet been determined. Since the important factor is the amount of toxin given, either the Dick method of five injections or the Larson method using ricineolated antigen will give equally good re-

sults, providing the proper amount of toxin is injected. The question arises in this connection as to how extensively shall we immunize. The essayist has answered this in his paper. A warning however in regard to the use of the so-called prophylactic serum for passive immunization will be timely. In my limited experience with it, the subsequent urticarial reactions have been of such astounding severity that at present, I prefer to take a chance with the disease or to resort promptly to one of the methods of active immunization. This finding is in accord with the opinion of the essayist that routine prophylactic injection of serum is not at present advisable. The essayist emphasizes in his paper that the serum treatment is of limited value, by stating that mild and moderate cases do not receive enough benefit to warrant serum therapy. In concluding this brief discussion, I may say without hesitation that I have enjoyed this contribution, and I feel that the moderation advocated by Dr. Hill in his paper is all the more valuable at the present time when we are often too prone to depend more upon lurid claims rather than upon the results of sober and careful research.

Dr. James E. Dyson, Des Moines—I wish heartily to endorse Dr. Hill's paper on every point. In handling a subject like this and using new material, I believe we should be doubly careful because we are not only treating our patients, but attempting to leave an educational phase with the people. We do not want to overdo our promising and underdo our protecting. Dr. Parke of the New York City Board of Health was here a month ago and told us, if we would give more than 0.1 c.c. of scarlet fever streptococcus toxin, we would secure a more accurate Dick test and thereby gain more reliable information. Concerning the use of the scarlet fever streptococcus toxin of Dick—five injection method, I have found that it causes considerable reaction in my patients. Several of them had some fever and others developed emesis. Nothing will discredit anything we do more than to make our patient sick, so I think the employment of this should be guarded. I am using Larson's ricineolated scarlet fever antigen, which is simply a personal thing with me. I think both protect equally if the Larson antigen is given in more than one dose. I give a 3,000 skin test dose intra-muscular injections at weekly intervals; until I have given two or three doses. I believe we should try to immunize contact cases. Where one case breaks out in a family or in the school we should try to immunize if possible the contact cases who are positive Dick test. I believe in giving Larson's ricineolated antigen as soon as possible after exposure. There are probably many cases that can be protected from scarlet fever by this method. I do not use antitoxin in exposed cases for immunity because of its imperfections, as antitoxin for scarlet fever seems to give these patients such a high percentage of serum reactions. The blanching test, as Dr. Hill warns us, is not of much value, and it also has one element of danger. We use in the blanch-

ing test an antitoxin that is a horse serum, and even that small dose of horse serum can produce anaphylaxis. Therefore if it is not necessary to subject the patient to that danger we will be on the safe side. In my experience scarlet fever can be diagnosed by looking down the throat, and it is not necessary to use anything with a needle.

Dr. Henry Albert, State Health Commissioner, Des Moines—In connection with our State Department of Health, we receive many reports of scarlet fever every day. During the past year, the disease has been very prevalent in the state. In regard to Dr. Hill's paper, I want to say that it is one of the finest presentations of the subject I have ever heard and I can agree with practically everything he has said. I think perhaps one statement might be modified, namely, that the use of specific biologic preparations for prevention and treatment is still in the experimental stage. I think we have gone beyond the experimental stage. There are, of course, certain features in connection with the use of the specific agents which need to be more definitely determined. I have some interesting figures relative to the efficacy of immunization in the prevention of scarlet fever. A rather severe epidemic of that disease prevailed in Waterloo throughout last winter. The local board of health and the State Board of Health joined in asking the Scarlet Fever Committee in Chicago to come to Waterloo for the purpose of making a demonstration of the value of a specific scarlet fever streptococcus toxin in preventing the disease. After a preliminary survey by Dr. Gladys Dick, the demonstration was conducted by Dr. Paul Rhoads. Of about 1500 children who were given the Dick test early in March, 783 were found to be susceptible to scarlet fever. Four hundred ninety-two (492) of these received the five dose course of immunization—the doses being given at intervals of about a week. None of these have subsequently developed scarlet fever. On the other hand, eleven cases have already developed in the 206 children who were found to be susceptible to scarlet fever, but who did not take the immunizing treatment. (More detailed figures regarding the findings were published in this Journal June, 1929, p. 289.) The treatment of scarlet fever with specific anti-serum is also beyond the experimental stage. Its use certainly appears advisable in all severe cases.

Dr. Hill (closing)—There are only one or two points I would like to make. One is regarding the use of antitoxin for the case that has a single exposure to scarlet fever; I do not believe the giving of antitoxin is going to prevent development of scarlet fever in that individual. I do thoroughly believe in giving active immunization where there is danger of further exposure. Furthermore, I believe the use of active immunization at the present time is being largely restricted to epidemics, as Dr. Albert has just described. Either the Schick or Dick test is effective in preventing epidemics or in stopping epidemics that occur in communities.

THE PUBLIC HEALTH LABORATORY FUNCTION AND RELATION TO CLINICAL LABORATORIES*

F. P. McNAMARA, M.D., Dubuque

The modern medical laboratory has been developed in the main during the last twenty-five years. While it had its conception in the office of the practicing physician, the diffusion of scientific knowledge and the improvement in medical education, which has resulted in improved medical practice both in the home and in hospitals, demanded centralization of the laboratories. Today laboratory diagnosis is an essential part of the practice of medicine whether concerned with the cure or prevention of disease. While twenty-five years ago complete laboratory service was available only in the larger scientific centers of the country, today it is offered in most progressive communities and no community is doing its full duty in the care of its sick or in the disease prevention unless this service is available.

The public health and clinical laboratories have developed side by side. The former were supported by the county or state. The latter were usually developed in the more progressive hospitals, but at times were private enterprises and were supported by fees received for work done for patients. The former has to do with disease as it affects the community; the latter as it affects the individual. There are still some communities in this state where complete laboratory service is not available largely because of economic reasons. There is also another factor, that of the scarcity of trained physicians who devote all their time to laboratory work. It has been estimated that there are approximately 500 pathologists and nearly 7,000 hospitals that require their services in this country. The main reason for this condition is that the laboratory offers little return for the training involved as compared with clinical medicine.

In this program of standardization and approval of clinical laboratories, the Council on Medical Education and Hospitals of the American Medical Association has approved only about one-half of those reporting. Incidentally, there is only one such laboratory in Iowa. While there may be other factors to explain these facts, I believe the principle one is because they are not directed by especially trained physicians. This is a requisite in the program of the council and if it is true of the clinical laboratories it is likewise true of the public health laboratories. To attract such trained men it will be necessary in

*Read before Iowa Public Health Association, May 7, 1929.

the smaller communities at least to unite the public health and clinical laboratories for the sake of economy. Of course, if the public health director is also trained in laboratory procedure he can delegate the work to technicians under his supervision but in such a case the private laboratory which is just as essential will not have sufficient work to attract the proper type of director. I believe that the combination of the two is the solution of the problem for most communities in this state.

The work of the public health laboratory can be divided into that concerned with the diagnosis of infectious diseases and that which has to do with the purity of the public milk and water supplies. The former will have to do with those infectious diseases in which positive or negative results may be expected. The Wassermann test is an exception because weak reactions are obtained which are not diagnostic. There are other examinations that may be occasionally asked for by the health director such as the bacteriological examination of sewage, ice or analyses of food and drugs, but these should be done at the central state laboratory when required. Original investigations should not be expected of the county laboratories because of the lack of personnel and funds, but are an important function of the state laboratory. The county laboratories should of course cooperate in such studies as far as possible. It is a pleasure indeed to add my public recognition to that of many others for the fine investigative work carried out by Doctor Hardy in this state on undulant fever. For all practical purposes, he has given us a new disease in this state and I hope that he may be able to arrive at some means of control before he ends his studies. Let us briefly consider some of the work of the public health laboratory, but especially that of the counties.

DIPHTHERIA AND SCARLET FEVER

Diphtheria and scarlet fever are subject to bacterial control for diagnosis, release from quarantine and in the detection of carriers. Cultures of the nose and throat should be made in all suspected cases and contacts. No patient should be released until two negative cultures of either the diphtheria bacillus or the hemolytic streptococcus are obtained on consecutive days. As diphtheria is likely to occur at the opening of each school year, routine nose and throat cultures in the lower grades at least should be made at that time in order to detect any possible carriers. If diphtheria or scarlet fever occurs in a pupil, all the other children in the school room should have

nose and throat cultures to detect others that may be infected. If smears are made at the time cultures are taken, Vincent's angina can be diagnosed if present.

TYPHOID, PARA-TYPHOID AND UNDULANT FEVER

Typhoid and para-typhoid fevers are also subject to bacteriological control. During the first ten days, the blood culture is of greatest value; after that time the agglutination test gradually increases in strength and is diagnostic unless the individual has had typhoid vaccination. In releasing a patient from quarantine two typhoid free feces cultures should be obtained on consecutive days. When epidemiological studies indicate that an individual may be a carrier repeated feces cultures should be made to determine definitely that such is the case. Undulant fever is likely to be confused with typhoid and blood cultures and agglutination tests should be made to determine if the micrococcus melitensis is present. While this is now done at the state laboratory it should later become a routine procedure in the branch laboratories.

TUBERCULOSIS

The sputum examination still remains the best single test for the diagnosis of pulmonary tuberculosis. When repeated examinations are negative and the clinical evidence strongly points toward tuberculosis, the sputum should be inoculated into a guinea pig. Usually a month passes before a diagnosis can be made. Doctor Corper's new method of culture may also be used as it shortens the time required for demonstration, at least in some cases.

MENINGITIS

Every case of acute meningitis should be suspected of being of the epidemic form and demands a diagnosis of the etiological agent. The direct smear is most valuable, but should be checked by cultures. All contacts should have cultures of the naso-pharynx and when the disease occurs within a group, all the other members of the group should be cultured in order to detect carriers of the meningococcus.

VENEREAL DISEASES

The Wassermann test which is now supplemented by the Kahn precipitation test is our greatest single aid in the diagnosis and control of the treatment of syphilis. It should be done more or less as a routine on all suspects. Let me emphasize that if the diagnosis is made by the laboratory tests alone at least two repeated four plus reactions should be obtained. In such a case

there will be demonstrable clinical evidence of syphilis if sought. Gonorrhea whether of the genitalia or eyes is another disease in which smears give positive evidence especially in the acute stages.

RABIES

The brain of every dog suspected of harboring the virus of rabies should be examined for Negri bodies. I believe most of this work should be carried on at the central laboratory where large numbers of examinations will tend toward perfection in diagnosis. However, it is possible that examination of one-half of the brain at the county laboratory and of the other half at the central laboratory might be desirable.

WATER AND MILK EXAMINATIONS

Systematic bacteriological examinations of milk, ice cream and public waters should be made throughout the year and should be supplemented by sanitary inspections of dairies and of the sources of water supply. The milk and ice cream should also be examined for total solids and butter fat content to determine their food qualities. There is often a question of contamination of a private water supply and while not strictly public health work, should be examined by the health laboratory. Swimming pools and the water supply of tourist camps and children's playgrounds are possible sources of infection and should be frequently checked by bacteriological examinations during the active season.

The above brief descriptions give a fair idea of the scope of the work of the public health laboratory. The work will be of the greatest value when the laboratory is part of a well developed health unit which is directed by a full time health director whose main aim is the prevention and control of all diseases. An idea of the need of the work is evidenced by the use made of the laboratory and in Dubuque county we have had as high as 6,500 examinations in a year at an approximate cost of thirty-five cents per examination to the county.

CLINICAL LABORATORIES

The clinical laboratory is concerned with the manifestations of disease in the individual. It has been stated that they have to do with "the presence, nature, source and progress of disease in the human body". Therefore the work includes all that done in the public health laboratory and in addition an ever increasing list of examinations by the methods of chemistry, bacteriology, serology, pathology and parasitology. In no branch of medicine is the value of routine methods better demonstrated than in the clinical labor-

atory. Frequently an examination brings to light some entirely unsuspected finding which gives the clue leading to the solution of an otherwise baffling problem. Time does not permit discussion of the scope of the work of the clinical laboratory. Let it suffice to say that the clinical laboratory is considered a necessary department in every acceptable hospital. Indeed it has been said that the amount and character of the work done in the laboratory is an index of the efficiency of hospital service or in other words, the better the laboratory, the better the hospital.

Because of the nature of the work done in the two laboratories there is no sharp line of division between them but there is an actual overlapping of the work. This has given rise to the criticism that the public health laboratory was encroaching on the field of the clinical laboratory. Undoubtedly this does occur, but I believe that its importance is exaggerated in the minds of some. The principle criticism is concerning laboratory tests in the venereal diseases and comes from clinical pathologists who feel that they are being deprived of a legitimate source of income by the state or county laboratories who do the work without charge. Undoubtedly this is true to a certain extent and it may well be a matter of concern as to whether all persons afflicted with syphilis and gonorrhea are legitimate recipients of free laboratory service. Many of them are, but many of them are not. I believe the intention of the state was to render this service available to those who needed it, but who were unable to pay for it. It was also made available to the directors of public health work who in carrying out their duties might require such examination. With those groups there can be no dispute. In regard to those patients fully able to pay and who sometimes have paid well to acquire either gonorrhea or syphilis or both, I believe the matter rests with the medical profession—if they collect a fee for the tests, then they should see that the one who performs the tests is reimbursed. In other words, the same principles govern laboratory work as other medical service.

In conclusion, I state my belief that the importance of both types of laboratories is going to increase. Just how rapid the increase will be, depends upon whether they have the whole-hearted support of the medical profession or not. My experience at Dubuque where the combined clinical and public health laboratory does ten to twelve thousand examinations a year, leads me to believe that through stimulation and education of the profession at state, county and hospital staff meetings, it will be rapid.

STATE HEALTH COMMISSIONER'S PAGE

Henry Albert, M.D.

PREVALENCE OF COMMUNICABLE DISEASES

The most prevalent communicable diseases for the past month have been scarlet fever, typhoid fever, and whooping cough.

POLIOMYELITIS

Although ordinarily August is a "poliomyelitis month" only five cases of this disease were reported during that month. There was, however, a slight increase in September. Cases have been reported from Davis, Polk, Dickinson, Marion, and Clarke counties.

SCARLET FEVER

Although scarlet fever reached its low point it still continues to be one of the most prevalent diseases. The northeastern portion of the state had the most cases.

TYPHOID FEVER

This disease joined the "most prevalent" group with reports of 109 cases during the past month. Seventy-five of these were accounted for through a milk-borne outbreak in the city of Greenfield. Upon investigation, a carrier was found working at the dairy involved.

WHOOPING COUGH

Whooping cough was most prevalent in the northern half of the state with Ringgold and Lee counties in the south reporting seven cases each.

VENEREAL DISEASES

Improvement in reporting accounted for the reports of 218 cases of syphilis and 190 cases of gonorrhea.

MEASLES

The number of cases of measles reported was cut almost in half. This is in accordance with expectations since the incidence of measles reaches its low point in August.

TUBERCULOSIS INVESTIGATION

The last legislature appropriated \$4,000 for "tuberculosis investigation".

The provision for this fund will enable the state through its official channels to cooperate much more effectively than has heretofore been



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possible, with the voluntary State Tuberculosis Association, the State Veterinary Department and other organizations interested in the prevention of tuberculosis.

The following represents a brief outline of the purposes and methods of procedure of the work of this new division:

TUBERCULOSIS INVESTIGATION

I. PURPOSES. The listing of every case of tuberculosis in Iowa: determining, if possible, the source of infection and the factors that have lead to the development of the disease; the prevention of the spread of the disease, which applies to the sources of this case, the factors involved and an interest in the treatment of the case so that such person will not become the source of infection. The data obtained is to be used not only in connection with the case in question, but also for the benefit of the general public.

(Continued on page 473)



The JOURNAL of the Iowa State Medical Society

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DIABETIC COMA

In the present age when specialization is so common in medical practice, many physicians are quite content to limit their study to subjects having direct bearing on their particular specialty, ignoring that very broad field of medical literature beyond their own doorstep. Such a practice inevitably results in a stunting of scientific growth, and engenders an indifference and ignorance in many vital branches of medical advancement. Should we not consider that the physician is negligent who, because of indifference, could not in an emergency control bleeding or initiate resuscitation in cases of drowning or asphyxiation?

Diabetes, while recognized as a chronic disease, is one in which there is apt to be acute manifestations. Diabetic coma is an emergency just as much as is acute appendicitis or a ruptured gastric ulcer—an emergency which any physician, regardless of his practice, may be called upon to relieve. Are we to remain content to tell the friends or relatives of a patient found in coma that the case does not come within the sphere of our specialty, and allow the sufferer to remain in ever increasing peril pending the arrival of a specialist in the treatment of this disease? Would we not be just as culpable as the plumber called

in the night to stop a leak, who, upon his arrival, investigates and announces that the water must be allowed to jeopardize the fine furnishings of your home since the particular type of leak does not come within his specialty? Certainly, if we are to maintain the high standards of our profession and continue to merit the respect of our patients, we must be qualified to cope with professional emergencies when they arise. Study conscientiously at least one good authority on diabetes, and be prepared to recognize and diagnose the condition when seen and render appropriate, even though temporary treatment.

Diabetic coma has been described as a "sly fox who may steal away a diabetic before he or his friends suspect it". Such a calamity can only be prevented by prompt action aided by scientific knowledge. It is not essential, perhaps, that we know that diabetic coma is an intoxication of the tissues from ketone bodies circulating in the blood, or that the condition is not directly dependent upon a glycosuria, or even a hyperglycemia, but to know that "Kussmaul's breathing" and the fruity (acetone) odor of the breath are typical in this condition is most essential. To know that insulin and not sodium bicarbonate is indicated may mean the difference between life and death of the patient. Consider, if you will, that the statistics of one insurance company alone would indicate that their death losses in 1928 from diabetes mounted to 1,044 deaths, and of this number, coma was responsible for 433 deaths, or 41 per cent. Remember, also, that to neglect the use of insulin, the mortality in diabetic coma approached 100 per cent. Compare with this the present mortality as reported by John, ranging from 5 to 10 per cent in the better clinics, and not exceeding about 30 per cent in any clinic since 1927.

Be prepared! Read Joslin,¹ John,² Lorant,³ Lemann,⁴ or any authority, but by all means, read, and read with the purpose in mind that the information obtained may be the means of meeting an emergency and conserving human life.

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PRESIDENT'S MESSAGE



County Medical Society Officers to Meet in Des Moines

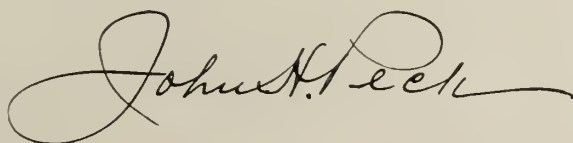
The fourth annual state conference which will convene at the Hotel Fort Des Moines, Thursday, November 7, marks another forward step of organized medicine in Iowa. We are to be honored by the presence of that brilliant speaker, Dr. Morris Fishbein, Editor of the Journal of the American Medical Association. Furthermore, this year for the first time, the presidents, as well as the secretaries and the deputy councilors, are to be included in the official invitation.

There are important reasons why the trustees, the council, and the other officers of the State Society are taking definite steps to increase the attendance at this gathering and to make it most interesting. In the first place this affords an opportunity for those men who are the leaders of organized medicine in their respective counties to secure an immediate, personal contact with the important undertakings and operations of the State Society. There should be two or more members in each county society as fully informed as to the workings of organized medicine in Iowa as the state officers themselves. Various officials of the State Society will relate some of their more important activities at the November 7th meeting.

Certain problems in the field of medical economics continually confront us and must be solved. The County Health Unit and the county contract are to receive special attention at the coming meeting.

In the good Book it is told how the "Captains of the Tens" and the "Hundreds" were called together for promulgation of the plan of battle. The Iowa State Medical Society is evolving with increasing definiteness plans of action. It is only through the closest coordination between state and county societies that we can achieve success in these undertakings which are of such tremendous importance to our profession and to the individual members thereof. The county society officers must be the continuous, dynamic connecting link between the state organization and the real working unit, the county society.

For these reasons all county officers are urged to make plans to devote the day of November 7 to this important meeting.



THE EFFECT OF BLOOD LOSSES ON TRANSFUSION DONORS

Medical literature, during the past few years, has contained many elaborate articles dealing with the effect of blood transfusion in a wide variety of pathological conditions. In most of these articles, a paragraph or perhaps slightly more is all that is devoted to the selection of a proper donor. Consideration is given to the type of the donor's blood, his general physical condition, and his Wassermann reaction, but little attention, however, has been given in any published article to the effect on the donor of the loss of blood sustained in the procedure. Most articles dealing with blood transfusion state, apparently upon an empirical basis, that an individual, even though robust and full-blooded, should not be used at too frequent intervals as donors. This statement is qualified by some limiting the number of blood donations to once a month, once in three months, etc.

The first serious attempt, however, to determine upon a scientific basis the effect of blood loss upon the donor was conducted by Giffin and Haines¹ in 1923. A more recent and more extensive research into this problem has been reported by Jones, Widing, and Nelson.² These authors report in detail upon a study of 175 transfusions, having checked the red blood count and hemoglobin, the clotting time, the volume index, blood plates, vital capacity and weight change concerning male and female donors and estimating the maximum volume of blood which can be removed without ill effect. It is interesting to note that in their series three of their donors were used only once, whereas one was used for as many as fifty-four donations. All except five of their donors were males, since their experience with female donors had not been entirely satisfactory.

In their male donors they noted an immediate drop in red blood count, ranging between 300,000 and 720,000, when 400 c.c. of blood were removed. Hemoglobin was reduced from 2 to 8 per cent. Reduction in red blood count and hemoglobin up to 50 per cent was noted where the amount of blood removed exceeded 500 c.c. In their series definite systemic and symptomatic affects were noted in all cases where the amount of blood withdrawn in the male was in excess of 400 c.c. and in the female in excess of 300 c.c. Where the amount was as great as 1,000 c.c., serious systemic affects were noted, and such donors usually require hospitalization for one day. Again, they observed that repeated and frequent donations were possible where the amount

of blood removed at a single operation was 400 c.c. or less. They recommend that with male donors between twenty and forty years of age, weighing 150 pounds or more, 400 c.c. or less amounts may be donated four or five times at three to five day intervals without ill results.

In their observation of some 350 donors, an unfavorable result was noted in only one instance. In this case a serious anemia developed after only one donation. Six other donors fainted from psychic shock, requiring a discontinuation of the procedure, but without ultimate unfavorable results. Their observation would indicate that the ultimate results in the case of most donors are an improvement in general health; acne and constipation were favorably influenced; there was an increase in weight in the majority, and many noted a greater ease in performing their routine duties.

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PHYSICIANS SHOULD ASSUME RESPONSIBILITY FOR DIPHTHERIA

The State Department of Health is continuing its campaign to have all children susceptible to diphtheria, rendered immune to that disease with diphtheria toxin-antitoxin.

In places where an "immunization" campaign has not yet been conducted, it is probably advisable to arrange for such. Where however, such a campaign has been conducted, it is advisable for family physicians to see to it that the unimmunized children of "his families" are properly protected.

A program of diphtheria prevention to be ultimately successful, must include the child that has not yet entered school and the program has to be continuous, for each year a new army of susceptibles has arisen through the natural increase in population. The family physician is the one continuously in touch with the families and is the proper agency through whom the work should be done. He, of course, on his part, should recognize his opportunity and responsibility. The department of health can do much for the program by disseminating information and directing general campaigns.

It would be well, if every family physician would routinely at the time of every birth, explain to the parents that children are most susceptible to diphtheria between one and six years of age, and that all infants should be given toxin-

antitoxin as soon after attaining nine months of age as practical (six months if diphtheria is prevalent in the community). The physician might mark ahead in his calendar the date on which he should remind the parents to bring the child for immunization, and then notify them on that date if the child has not already been presented. A thorough-going program to include all infants would render unnecessary the school immunization programs, and at the same time give the child protection at the most critical period of life in regard to diphtheria.

CHILD PLACING IN IOWA

Recent world developments have proven conclusively that individual safety is secured and maintained only in social safety; that social welfare concerns every member of society either from a financial or welfare angle, hence the desirability of administering such work in an intelligent and businesslike manner.

Social welfare has become one of the distinct functions of government in every state in the Union and in as much as large sums of money are yearly expended on various forms of relief to those who are in need, the official social welfare program is a matter of concern to every taxpayer.

The main objectives of this program lie in the field of research studies, supervision and establishment of standards.

The state of Iowa is concerned with the welfare of all its children. They are recognized as its most precious possession. In the discharge of its duty to its children the state has made the Bureau of Child Welfare responsible for the safety and well-being of certain groups of children who are in need of special protection and care. Roughly, these children may be divided into three groups: The neglected, the dependent and the delinquent.

For the standard care of all these children the state has a degree of responsibility. For a certain group it has assumed a financial responsibility.

We realize that this provision for these children is one of the state's best investments, for in the welfare of the children of today lies the promise of good citizens for tomorrow.

The activities of the Bureau of Child Welfare include the inspection and licensing of fourteen child placing agencies, having under supervision about two-thousand children.

Although our present law has been operating for four years and which provides that no person

or agency shall place a child in Iowa without a license, there are individuals who are quite confident in their own ability to do child placing though they have had no training or experience to fit them for the task. Some hospitals and some physicians still follow this practice even though they have no facilities for investigating a home or supervising the child after it is placed. There are no records kept. Everything connected with the practice is deplorable if we have in mind the safeguarding of childhood.

Placing children in free foster homes is legally restricted to individuals in the regular employ of a court or of an institution or association which is certified by the state to receive and care for children.

With the constant emphasis on the desirability of providing family life for dependent children who are in need of institutional care, the question is frequently asked, just what is the state doing about it?

Home life is the highest and finest product of civilization. Children should not be deprived of it except for urgent and compelling reasons. Except in unusual circumstances the home should not be broken up for reasons of poverty, but only for consideration of inefficiency or immorality.

A foster home is the best substitute for a child's own home. When children are normal in mind and body and do not require special training they should be cared for in families whenever practicable. The carefully selected foster home is, for the normal child, the best substitute for the natural home. Such homes should be selected by the most careful process of investigation, carried on by skilled agents through personal investigation and with due regard to the religious faith of the child. After children are placed in homes adequate visitation with careful consideration of the physical, mental and moral training and development of each child on the part of the responsible home finding agency is essential.

Complete records of the child are necessary to a proper understanding of his heredity and personality, and of his development and progress while under the care of the agency.

Before a child is placed in other than a temporary foster home attention should be given to his health, mentality, character, family history and circumstances.

Careful and wise investigation of foster homes is pre-requisite to the placing of children.

Adequate standards should be required of the foster families as to character, intelligence, experience, training, ability, income, environment,

sympathetic attitude and their ability to give the child proper moral and spiritual training.

A complete record should be kept of each foster home giving the information upon which the approval was based. The records should show the agency's contacts with the family from time to time, indicating the care given the child entrusted to it.

Supervision of children placed in foster homes should include adequate visits by properly qualified and trained visitors who should exercise watchfulness over the child's health, education and moral and spiritual development. Periodic physical examination should be made.

If the conclusion of the National Conference on Child Welfare is to serve as our guide in this tremendous task, we must visualize child-placing as a highly developed art. Its possibilities are great. It requires the greatest tact, insight into human nature and patience in handling the many problems of adjustment.

Iowa's laws making it a misdemeanor for any child to be placed in a foster home except by those agencies authorized to do so by the state and who are fitted by training and equipped by sufficient staff to make the necessary supervisions and take care of the follow-up work is a step forward in Iowa's program of child welfare work.

Who is capable of accepting the responsibility of selecting and supervising the homes for the helpless child who has no one to choose for him?

While recent legislation has greatly strengthened the laws of Iowa in relation to children, there is still need for child welfare legislation. Such legislation periodically requires careful reconsideration in order that necessary revision and coordination may be made and that new provisions may be added as experience dictates for after all we only progress by the tried and error method of experience.



Physicians Are Leaders in Public Health Movements



The conspicuous growth of the public health movements rests upon the foundation of scientific data. The factual tools which made possible the prevention of diseases have been furnished by the medical profession.

The leaders of that profession assert that the time has come for it to assume that position of guidance and direction in the public health movement to which, because of its knowledge and equipment, it is rightfully entitled. A properly conducted public health organization welcomes such leadership. The most conspicuous example is the National Tuberculosis Association and its affiliated state and local associations. The tuberculosis movement has been based upon scientific facts. It has been directed to a large extent by physicians of the best standing. In this state the medical profession is liberally represented on the executive committee and board of directors of the Iowa Tuberculosis Association. A physician is its president.

In this state also there has recently been a forward looking development within the Iowa State Medical Society in the way of cooperation with the public health movement. In September of

last year the Society acting through its Councilors put itself on record as follows:

"Be it resolved by the Council of the Iowa State Medical Society that members of the Society should take an increasing part in all public health work, and especially in all lay organizations having to do with public health, prevention of disease, * * * ." Many steps have been taken to realize this plank in this platform. A full time executive department has been set up charged partly with the duty of the promotion of preventive and educational health work. This department has been the means of bringing together in important conferences representatives of various statewide organizations which concern themselves with public health. A speakers' bureau is being organized with the idea of offering to various local groups physicians who can speak with authority on public health subjects.

In short the medical profession of Iowa has entered on a policy of placing at the disposal of the reading and listening public its scientific medical knowledge interpreted in terms to fit the popular receptivity. This happy liaison between medicine and public health is extending rapidly

into local areas. In at least a score of counties physicians are officers of county public health organizations.

A study made of the public health activities of medical societies shows a wide variety of results of such cooperation. Among the things done by these various societies are the following: held tuberculosis and heart clinics as one of the regular society programs; promoted employment of public health nurses; conducted weekly health columns in newspapers; aided in diphtheria immunization; cooperated with parent-teacher associations in the summer round-up examinations; endorsed and actively participated in the Christmas seal sale; made use of its members as a speakers' bureau on public health subjects; and interested themselves in various community health projects such as milk inspection, bovine tuberculosis eradication, the early diagnosis campaign and health work in schools.

Physicians who are serving their communities by taking part in public health work have done so because of the sincere desire to be of service, but as Dr. George Vincent of the Rockefeller Foundation says "they have discovered that an increased community interest in personal hygiene, school health, maternal and child welfare is sending more and more patients to private practitioners. The public health staffs become in a sense agents for the doctors, who in turn man and strengthen the institutions of prevention".

If this unanticipated and collateral result has happened that is as it should be. The voluntary public health movement is not concerned with state medicine—in fact the growth of the voluntary movement is a deterrent to the progress of the state medicine idea. Its policy is to recognize the private practitioner, especially the family physician in rural communities, as an increasingly necessary and important essential in community life. It seeks to better his facilities and to increase his opportunities for service.

One attempt to carry out this purpose is the early diagnosis campaign. For the past two years—and it is contemplated again next year—the national, state and local tuberculosis organizations have carried on throughout a month in the spring a popular educational movement whose slogans were "Go to your doctor" and "Let your doctor decide". The movement was directed principally toward the early discovery of tuberculosis, secondarily heart disease, but the idea applies equally well to the whole field of human ailments. It applies to the dentists as well as the doctors.

This early diagnosis campaign included various methods of influencing popular action—distribution of literature, publication of newspaper and magazine articles, speeches, moving pictures, the radio, posters, window cards and exhibits, consultation clinics in tuberculosis and heart disease under the auspices and control of the medical profession, and other case finding methods.

The early diagnosis campaign was financed by Christmas seal funds.

This is only one example of the activities of the Iowa Tuberculosis Association and local affiliated health organizations made possible by the annual Christmas seal sale.

The seal sale because of the situation described in the early part of this article has received the hearty cooperation of the medical profession in Iowa, through its state organization, its local units and its individual members. Last November an article appeared in the newspapers reading as follows:

"Pledging the support of the medical profession to public health work the Iowa State Medical Society, acting through its trustees, transmitted today to the Iowa Tuberculosis Association the following resolution endorsing the Christmas seal sale:

"Whereas, this association and its local units are supported by the sale of Christmas seals throughout the state; therefore

"Be it resolved by the trustees of the Iowa State Medical Society meeting at Des Moines, that we express our approbation of the work of the Iowa Tuberculosis Association and its local associations and that we give hearty endorsement to the Christmas seal sale recommending to county medical societies and their members that they give all possible support and encouragement to the local committees in charge of the sale."

"This is one step toward carrying out the policy announced by the executive council of the State Medical Society when it recently passed the following resolution:

"Be it resolved by the Council of the Iowa State Medical Society that members of the Iowa State Medical Society should take an increasing part in all public health work, and especially in all lay organizations having to do with public health, prevention of disease, relief of poverty and kindred matters."

"County medical societies throughout the state will cooperate in the way of furnishing speakers to local public health movements. This is in pursuance of action taken by the Council of the State Society at its last meeting, looking toward the formation of a speakers' bureau with the idea of cooperating with community welfare movements."

Because of this interest of the readers of the Journal in the possibilities in the way of local public health the design of the seal which appears herewith will be of interest and it is also worth while to mention the following facts regarding the seal sale:

Thirty-two million penny Christmas seals distributed by the Iowa Tuberculosis Association will be offered for sale by local committees in every city, town and school district throughout Iowa during the twenty-second annual seal campaign which extends from Thanksgiving to Christmas.

The proceeds of the seal sale are used by the local associations in various forms of child health work, nursing, weighing and measuring, health education, fresh air camps, tuberculosis and heart clinics, dental inspection, school health supplies such as scales, first aid kits, thermometers, posters, books, etc., and a portion by the State Association in the prevention of tuberculosis both in humans and animals, in the discovery and prevention of heart disease, and in general health work.

During the twenty-two years since the first educational and preventive attempt was launched on tuberculosis by the National Association the tuberculosis death rate has declined 55 per cent, infant mortality at least 20 per cent and the general death rate 10 per cent. In this state the decline in the tuberculosis death rate represents a saving of 950 lives annually. Translated into dollars statisticians estimate that the reduction of mortality and illness represents a money saving in Iowa of \$744,000.

A PLEA FOR PROMPT REPORTING OF CASES OF COMMUNICABLE DISEASES

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Physicians and health officers in Iowa are lax in reporting cases of communicable disease. This is not in keeping with the general progressive action of the state as a whole.

The Rules and Regulations of the State Department of Health which constitute in effect a Sanitary Code require:

(a) The physician in attendance, parents, guardian, school teacher or householder where a case of disease exists must, on its discovery, immediately report the case to the local board of health.

(b) Local boards of health must forward the reports of all communicable diseases to the State Department of Health within twenty-four hours after they are received.

Section III of the Rules and Regulations sets forth a list of diseases declared to be reportable. This list comprises forty-six diseases.

Section IV defines "reporting" in the following words "For the purpose of these rules and regulations a case of any of the diseases mentioned in Section III may be said to be reported immediately when the name of the person (or office number of case of venereal disease), address, age, sex, together with the name of the disease existing or suspected is given in writing to the local board of health, within six hours after seeing such a case. The report shall be properly dated and signed (including address) by the physician or other person so reporting."

Many physicians do not report to health officers and many health officers fail to report to the State Department of Health. Many reports are received which say, "One case whooping cough", "Two cases scarlet fever", etc. Cards are received giving name, age, sex, and address of the patient but with no indication of the disease being reported. A card has been received marked "One case of typhoid fever". Later another card was received from the same city marked "One death from typhoid fever". Obviously there is no way of checking one of these against the other.

In the September Journal the "Field Duties" of the Division of Preventable Diseases were set forth. The "Office Duties" of this division include the following:

1. The receipt of daily reports of communicable disease from local health officials.
2. The compilation of data from these reports.
3. The dissemination of information received from such data to health officials of the state.
4. The preparation of data to be used for educational purposes.
5. The making of maps and charts for the spread of information regarding disease conditions.
6. A clearing house for general information and advice upon health subjects.
7. Correspondence with health officials of this and other states.
8. Preparation of articles for the professional and lay press.
9. Preparation of articles for bulletin.
10. Search of literature for information on special subjects.
11. Collaboration in the preparation of pamphlets on disease.
12. Conferences with health officers on matters of local import.
13. Preparation of reports of field trips and of special studies.
14. Preparation of material and tables for the biennial report.

It will be readily appreciated that the Division is handicapped in the performance of its duties if it does not receive the full details of each and every case, immediately as provided by the Rules of the Department.

Among other functions of the Division is the control of outbreaks of disease but again it is manifest that the Division cannot act without knowledge that cases exist. Any effort at control of communicable diseases can come only from information as to where and in what numbers cases of disease exist. This knowledge can be gained only by the receipt of reports which are made promptly and in detail. Ability to give warning in advance of a possible increase in the number of cases of a given disease must be based on analysis of cases reported in the past.

Who Shall Report?

Section 2228 of Chapter 107 of the Code of Iowa provides that "The local board of health shall consist:

"1. In cities and towns, of the mayor, health physicians, and members of the city or town council.

"2. In townships, of the members of the board of township trustees."

Section 2231 of the same chapter reads:

"Each local board shall have a health officer who shall be a physician, or one specially trained in public hygiene and sanitation. In cities and towns, the health physician shall be such health officer. In every other case the local board shall appoint said health officer who shall hold office during its pleasure." Thus, according to the code, in every city, town and township, provision is made for an officer who shall be responsible for the transmission to the State Department of Health of all cases of reportable diseases which may be reported to the local board of health.

With such machinery it would seem that the stage is set and that with proper stimulation better reporting can be obtained and the reports of cases received by the Department will in the future more truthfully represent actual disease conditions existing in the state than they have in the past.

It is desired that copies of the Rules and Regulations of the State Department of Health be placed in the hands of all health officials. Forms are provided for reporting to the Department by health officers and others responsible for the transmission of reports. These are in the form of cards with the necessary data indicated. Health officials are required only to fill in the spaces with the name of the disease, the name, address, age, sex of the patient, and other pertinent data, and drop it in the mail. No postage is required on these cards. Copies of the Rules and Regulations and a supply of the above described cards will be sent to all health officials who request them.

LAW ENFORCEMENT ACTIVITIES

Court Restrains Magnetic Healer

W. F. Hughey self-styled magnetic healer of Ames, has been restrained from practicing medicine and surgery in Iowa without a license, according to the terms of a temporary injunction granted by Judge T. G. Garfield in the District Court at Nevada, Wednesday, July 10, 1929. A hearing on the petition of County Attorney Earle S. Smith, and Attorney General John Fletcher for a permanent injunction will be held sometime during the September term of court.

Injunction proceedings were brought against Hughey in November, 1928, but were held in abeyance pending the outcome of a criminal action for practicing medicine and surgery without a license, on which he was convicted December 17, 1928 and fined \$750. This conviction was recently upheld by the Iowa supreme court. Testimony, quoted in the opinion written by Justice Evans showed that Hughey had advertised "magnetic healing" and kept an office.

Doctor Ordered to Leave State

An investigation by Herman Carlson, law enforcement inspector of the State Health Department, revealed that a certain physician was engaged in the practice of medicine in spite of an injunction against him, issued by the district court of Wright county on November 30, 1925, restraining him from engaging in the practice of medicine, surgery and obstetrics within the state of Iowa, without a license. Contempt charges were instituted by the State Department of Justice, Gerald C. Blake, assistant attorney general being in charge of the case. The doctor entered a plea of guilty to the charge before Sherwood A. Clock, judge of the eleventh judicial district, and was ordered to pay a fine of \$750. The fine was suspended provided that he leave the state of Iowa permanently, which he agreed to do.

Imposter

Carlson reports that a medical imposter using the degree M.D. following his name, also advertising as a foot correctionist has agreed to discontinue his activities in this state rather than face charges of practicing medicine without a license. Carlson states that this man had a big sign in front of his office, with the words "Naturopathic Physician" on it. Many people in the community were under the impression that he was a medical physician and when addressing him called him "doctor".

RED CROSS ROLL CALL

November 11 to 28

Announcement has just been made of the forthcoming annual roll call of the American Red Cross for membership during the coming year, which will take place from Armistice Day to Thanksgiving Day, November 11 to 28.

Out of each dollar membership in the American Red Cross, fifty cents is retained by the Red Cross for expenditure in behalf of the community in which enrollment is made; out of a \$5 membership, \$4.50 is retained in the community. In other words, all except fifty cents of the member's enrollment, regardless of amount, except in the case of life or patron memberships, is spent in his own town, city or county, as the case may be. Thus a large chapter enrollment means direct benefit to the community.

The fifty cents from membership enrollment which goes to national headquarters is spent in national and international work. Each year thousands of dollars are expended by national headquarters for relief in disasters for which no general appeal for funds is made to the public. In many instances, annually, national headquarters advances funds to local chapters for emergency relief in their communities following disaster, in order that this work will not be delayed while a public subscription of relief funds is under way. Such help is only possible because of the support of a large membership. The increasing demands on the organization's per-

sonnel and funds in this field alone stresses the importance of a representative enrollment for the coming year.

Where Red Cross chapters have raised in their jurisdictions large sums for relief of disaster, these expenditures have been in every case accounted for to the public by an audit by accountants of the United States Government.

The degree of participation of each member of the Red Cross in the work of the chapter is to a large extent optional, but the member who enrolls even for a year has the satisfaction of knowing that he has given financial and moral support to his or her Red Cross, and to this extent is an active participant in its work everywhere. Join!

THE PRACTICING PHYSICIAN AND RED CROSS DISASTER RELIEF

Because of the close relationship between the medical profession and the American Red Cross, an explanation of outstanding points of policy of the Red Cross which concern medical men may prove of interest.

The Red Cross medical and nursing services have two major duties and responsibilities in disasters, according to an explanation of Dr. William DeKleine, medical assistant to the vice-chairman of the American Red Cross. The first relates to treatment and care of the sick and injured; the second to prevention of illness among refugees and entire populations in disaster areas.

Medical, nursing and hospital care of disaster patients are problems separate and distinct from those relating to safeguarding public health. The former is the function of local physicians and nurses, the latter the duty of constituted local and state health authorities. It is not the function of the Red Cross medical and nursing services to assume these duties and responsibilities, but rather, to assist those of local medical and nursing professions, and health authorities to deal with the emergency.

The duty of caring for sick and injured in disaster, supervising and directing health activities in the area, are regarded as the function of local physicians, nurses and official health forces, unless, as happens sometimes, there is no local medical service available, or not enough physicians to care for the sick or injured. Then, of course, the relief agency must naturally share in this responsibility, but there is no attempt on the part of the Red Cross to supercede local physicians or take over work which rightfully belongs to them.

Every effort is made to maintain or restore normal relationship between physicians and patients, and free medical care in disasters is not intended for individuals able to pay for such service. As soon as the emergency period has passed all medical and other forms of relief are determined on the basis of individual and family needs only, and patients are encouraged to seek medical advice

through the usual channels as soon as conditions permit.

Medical personnel is employed by the Red Cross only when there are no physicians in the community, or where they are necessary to staff first aid stations and emergency hospitals. In such instances physicians from local or adjoining areas are usually employed.

Where additional hospital facilities are necessary, it is Red Cross policy first to expand existing institutions. Independent emergency hospitals are established only where no local hospitals are available, or where expansion is not possible or desirable. Tent hospitals are set up only when suitable buildings are not available.

Some needs which the Red Cross frequently is called upon to assist in meeting in a disaster area include:

Establishment of first aid stations and dispensaries for treatment of minor ills and injuries.

Increased hospital facilities through expansion of existing hospitals, or organization of emergency hospitals, and hospital clearing stations.

Increased maternity hospital facilities, including obstetric and pediatric service, particularly where a large number of people are involved in the disaster.

Medical, surgical, hospital, and other supplies for use by physicians and nurses at first aid stations, dispensaries, hospitals, refugee camps, etc.

Additional nursing personnel, and occasionally physicians to assist in refugee camps, emergency hospitals, first aid stations, and in follow-up service in the homes. The nursing service provided by the Red Cross, usually serves the dual purpose of helping in care of the sick and injured, and assisting public health agencies in immunizing refugees.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Associate Medical Statistician

Applications for associate medical statistician must be on file with the Civil Service Commission at Washington, D. C., not later than October 23.

The examination is to fill a vacancy in the United States Veterans' Bureau, Washington, D. C.

The entrance salary is \$3,200 a year.

The duties are to issue instructions to field offices in connection with statistical work; to review statistical data; to assist in evaluating results; to make comparisons between Veterans' Bureau hospitals and dispensaries and civilian hospitals and dispensaries; to study various diseases and conditions among ex-service men; and to endeavor to forecast morbidity and mortality information in connection with various diseases.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

SOCIETY PROCEEDINGS

Appanoose County Chest Clinic

Friday, September 20, the Appanoose County Medical Society held a heart and lung clinic in Centerville. The clinic was followed by a six o'clock dinner of the medical society and an evening program.

Calhoun County

The Calhoun County Medical Society met August 29th, at the McCrary Hospital at Lake City, and listened to a dry clinic Post Operative Intestinal Obstruction presented by Drs. Studebaker and Schultz of Fort Dodge. There were present visiting physicians from Sac, Carroll and Webster counties in addition to a good attendance from Calhoun.

On September 29th, at Pomeroy, Dr. Craig of Lohrville presented a well prepared paper on Infantile Convulsions. Dr. Cooper brought a patient with lip lesion for examination and advice.

Both meetings were preceded by the usual fellowship dinner.

Dr. L. L. Davidson, late of Omaha, is a new member at Lake City.

P. W. Van Metre, Sec'y.

Cerro Gordo County

The regular meeting of the Cerro Gordo County Medical Society was held at the Park Hospital, Tuesday, September 17. After the business session the following scientific program was presented: Care of Strabismus, C. E. Chenoweth, M.D.; Non-Specific Treatment of Paresis, N. C. Stam, M.D.; Coronary Occlusion, L. R. Woodward, M.D.; Care of Peptic Ulcer, G. M. Crabb, M.D.; Alkalosis in Pyelitis, with Report of Cases, M. B. Spahr, M.D.

Des Moines County

The Des Moines County Medical Society met Tuesday, September 10, in Burlington for their first fall meeting. After a six o'clock dinner the scientific program was presented which consisted of: Post Mortem Examination, Carl Jordan, M.D., Iowa City; and Certain Aspects of Undulant Fever, G. H. Hansmann, M.D., Iowa City.

Dubuque County Annual Meeting

The annual meeting of the Dubuque County Medical Society was held Tuesday, September 10, at the Hotel Julien, Dubuque. Scientific sessions were held both in the morning and afternoon. Dr. James R. Guthrie and his daughter complimented the members of this society with a luncheon in the hotel dining room at noon; and in the evening a 6:30 banquet was held with Judge Robert Bonson the principal speaker. The morning session was as follows:

Opening Address—President, Otto E. Haisch, M.D.; Statistics of Dental Caries in the City of Dubuque, W. J. Connell, M.D., Dubuque; Arrest and Treatment of Dental Caries in Childhood, P. G. Jeans, M.D., Iowa City.

The first paper in the afternoon was Pernicious Vomiting of Pregnancy, E. D. Plass, M.D., Iowa City, which was followed by a symposium on Calculi in the Genito-Urinary Passages. Surgery of the Aged was presented by William Jepson, M.D., Sioux City, and the session adjourned with a paper by F. M. Smith, M.D., Iowa City.

Jackson County

The members of the Jackson Medical Society were hosts to Dubuque County Society, Thursday, September 19, in Bellevue. The afternoon scientific program was as follows: Three Cases of Cardiac Disease, F. P. McNamara, M.D., Dubuque; Demonstration of Gall-Bladder Diseases with lantern slides and x-ray films, H. H. Webb, M.D., Dubuque; Acute Surgical Abdomen, C. E. Loizeau, M.D., Dubuque. The session closed with a six o'clock banquet served at the Week Hotel for the doctors and their wives.

Lee County

Thursday, September 12, the Lee County Medical Society met in Fort Madison for their regular monthly meeting. The session began at one o'clock promptly and the scientific program was as follows: The Use of Diathermia in Treating Pelvic Organs, B. L. Gilfillan, M.D., Keokuk; Surgical Treatment of Empyema, Charles Yoho, M.D., Keokuk; Malta Fever, Harold Noble, M.D., Fort Madison; Tetanus following Intra-Nasal Trauma—Case Report, R. S. Reimers, M.D. and F. H. Dierker, M.D., Fort Madison. After the program a moving picture entitled, How Biologicals Are Made was shown through the courtesy of the Parke Davis & Co., Detroit, Michigan.

Linn County

The Linn County Medical Society met at Cedar Rapids Thursday, September 12, to listen to J. P. Greenhill, M.D., Chicago, on Management of the Second Stage of Labor, following which the Cantic Cancer film was shown.

Polk County

The Polk County Medical Society held its first fall meeting, Tuesday, September 24, at the Hotel Ft. Des Moines. James A. Downing, M.D., talked

on Therapeutic Bronchoscopy and D. C. Steelsmith, M.D., spoke on Public Health Legislation.

Scott County

Scott County Medical Society met Tuesday evening, September the 3rd at 8 p. m. at the Chamber of Commerce. There were twenty-six members present. Dr. Bessmer, president, presided.

The question of Scott County Society making a contract with the board of supervisors for the care of the county poor was taken up, and after a thorough discussion both pro and con, a motion carried that the president appoint a committee to investigate, and report back at the next meeting as to plans and arrangements that could be made. This motion carried with it also, authority to spend what funds were found necessary in their investigation. The committee appointed consisted of Drs. Marker, Hand, Bendixen, H. Lamb, K. Matthey, L. A. Block, and Geo. Braunlich.

Dr. Lamb presented his paper on the use of laboratory tests of the blood, and it was followed by discussion by several of the members.

Meeting adjourned at 9:30 p. m.

John I. Marker, Sec'y.

Wayne County

The Wayne County Medical Society sponsored a chest clinic which was given in Corydon, Friday, September 13. Drs. Peck and Luginbuhl of Des Moines were in Corydon for the day and conducted the clinic.

Webster County

The first fall meeting of the Webster County Medical Society was held Tuesday, September 17, at the Mercy Hospital in Fort Dodge. T. R. Gittens, M.D., of Sioux City, was the speaker of the evening presenting Bronchoscopy and Eso-phagoscropy of the Chest, which was illustrated with slides.

Waterloo Medical Society

The Waterloo Medical Society met Wednesday, September 18, at Black's Tea Room in Waterloo. H. E. Alcott, M.D., Iowa City, read a paper on Renal Complications. It was voted by members to hold regular meetings on the third Tuesday of each month instead of the third Wednesday.

Four Counties District Meeting

Allamakee, Clayton, Fayette and Winneshiek counties participated in a banquet and program held in Elkader, Wednesday, September 11. After the banquet the following program was presented. Treatment of Fractures of the Femur, Donald Conzett, M.D., Dubuque; Preventive Medicine, James E. Dyson, M.D., Des Moines; Tumors of the Testi-

cle, F. P. McNamara, M.D., Dubuque; Treatment of flat feet, R. R. Harris, M.D., Dubuque. Dr. Channing G. Smith, chairman of the State Council, Dr. James R. Guthrie of Dubuque, Dr. H. M. Bradley, president of the Delaware County Society, and Vernon D. Blank, managing director of the State Society, were present and President Cahill called upon each for remarks following the banquet.

PERSONAL MENTION

Dr. G. L. Watson of Cherokee was seriously injured Friday, September 6, in an automobile accident. He received internal injuries and a severe skull fracture, and is confined at the Sioux Valley Hospital.

Dr. Fred H. Decker is leaving Winterset October 1 for Rochester, Minnesota, where he will be associated with the Mayo Clinic, having accepted a position in the x-ray and pathology department.

Dr. M. J. Kenefick of Algona is recovering from a severe illness which was considered serious for several days.

Dr. M. J. McCrane of New Hampton sailed from New York Saturday, September 7, for Paris, France, where he will spend several months practicing and studying surgery. Before returning he will visit the clinics of Berlin and Vienna.

Dr. John McKitterick who has been seriously ill at the Burlington Hospital is reported as recovering. His illness was described as an infection of the throat and for some time was considered serious.

Dr. J. T. McConnaughey, after seventeen years of practice, is leaving Winfield and locating in Mount Pleasant.

Dr. Anatole Kolodny, formerly of Iowa City, is going to Marshalltown where he will be associated with Dr. Aaron C. Conaway. The partnership will begin October 1. Previous to this time Dr. Kolodny has been one of the surgical department heads of the State University of Iowa. Dr. Conaway is well known, being Councilor for the fifth district of the Iowa State Medical Society, president of the Marshalltown County Medical Society, and mayor of Marshalltown.

Dr. James J. Duffy, formerly of Moorhead, has sold his hospital to Dr. Johnson of Dow City, and is leaving to take up his practice in Denison.

Dr. R. C. Coleman has disposed of his hospital in Estherville to the Lutheran Hospital Association.

Dr. John W. Dayton, formerly of Ashville, North Carolina, will take the position at the Santa Fe Railroad Hospital at Fort Madison, Iowa, which is to be left vacant after October 1st by the resignation of Dr. R. L. Feightner. Dr. Feightner is remaining in Fort Madison, sharing offices with Dr. Robert S. Reimers.

Dr. C. C. Walker of Des Moines is leaving for Vienna, Austria, where he will take a special three

months' post graduate course in diseases and treatment of the eye, ear, nose and throat. Dr. Walker is one of the twelve being accepted in this course.

Dr. and Mrs. D. F. Fitzpatrick returned to Iowa City Friday morning after a three months' European trip during which they visited France, Italy, Switzerland, Germany, England, Scotland and Ireland.

Dr. Frank L. Williams, Des Moines, director of the United States veterans bureau has been awarded the oak leaf cluster of the distinguished service cross for extraordinary heroism in action during the World War.

Dr. H. C. Lawson of Omaha, Nebraska, is coming to Sac City to be associated with Dr. E. W. Wilson in the practice of medicine. Dr. Lawson is a graduate of the University of Nebraska, and has spent three years in the University and hospitals of Bordeaux, France.

Dr. Francis W. Hobart has come from California to become associated with the McVay Memorial Hospital of Lake City, Iowa. He is a graduate of the State University of Iowa, completing two years in extern service at the State University hospital, and one year internship at the Letterman General Hospital, San Francisco, California.

Dr. D. S. Challed has located in Norway, Iowa, and will engage in the practice of medicine there. Dr. Challed is a graduate of the State University of Iowa, and for some time past has been resident intern at Grace Hospital, Detroit, Michigan.

Dr. Charles J. Rowan, Iowa City, who resigned from the faculty of the College of Medicine in 1927 on account of ill health has resumed his duties this fall at the University after having spent more than two years in California.

OBITUARIES

Hoxie, William E., Hampton, died September 17 at the age of sixty from asphyxiation; graduated in 1898 from the State University of Iowa College of Medicine and in 1899 from Rush Medical College, University of Chicago. At the time of his death he was a member of the Franklin County Medical Society.

Ross, Grant J., Sioux City, died at the age of eighty-seven, of chronic heart trouble; graduated in 1867 from the Medical College of Ohio, Cincinnati. He had long been a member of the Woodbury County Medical Society.

Jennings, Henry B., Council Bluffs, died September 6 at the age of sixty-nine; graduated in 1882 from the College of Physicians and Surgeons, Keokuk. At the time of his death he was a member of the Pottawattamie County Medical Society and Councilor of Ninth District.

THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The London School of Hygiene and Tropical Medicine formally opened on July 18, the new buildings made possible by a gift from the Rockefeller Foundation. The Prince of Wales officiated at this formal opening, and in the course of his remarks stressed the fact that this gift added another bond of friendship between "the two great English-speaking races". He paid a respectful tribute to America's aid in British medical research, stating that "science and research laboratory work know no nationalities".

THE NEW CLEVELAND CLINIC

It has been announced by the directors of the Cleveland Clinic that the Clinic building, in which the disaster of May 15 resulted in the death of 123 persons, would not be remodeled, but the entire structure razed and a new building erected. Chemical tests have shown that the brown, pastelike residue, left by the poisonous gases generated by the burning x-ray films, had penetrated entirely through the masonry. On a basis of this finding, the directors advised that they will follow the plan of razing the building, since they fear that latent fumes might possibly result in further fatalities.

THE PEDIATRICIAN'S FORMULA

The first suggestion for the preparation of Mead's Dextri-Maltose came from pediatricians. Naturally their preference for this particular form of carbohydrate is back of its very conception. Dextri-Maltose brings mothers with their babies back to your office, not only because of its clinical results but because it satisfies the mother that her baby is receiving individual attention—that it is getting "a formula".

From your viewpoint, this mother-psychology is all the more an important point of medical economics because there are no feeding directions or descriptive circulars in the packages of Dextri-Maltose. It is truly the doctor's formula.

STATE HEALTH COMMISSIONER'S PAGE

(Continued from page 461)

- II. METHODS. 1. Reports of cases—regular method supplemented by special investigations.
2. What patients are or have been, in hospitals or sanatoria, etc., if so, where, when, and how long.
3. Reports of deaths—regular method.
4. Conferences.
5. Field investigations by visits:
 - a. To find more cases.
 - b. To find source of infection.
 - c. To determine factors which have favored development of the disease.
6. Preventive work:
 - a. Pamphlet to every patient and family.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- PHYSIOLOGY OF BONE—R. Leriche and A. Policard—Translated by Sherwood Moore, M.D., and J. Albert Key, M.D.—C. V. Mosby Co., St. Louis—Price \$5.00.
- EDEMA AND ITS TREATMENT—By Herman Elwyn, M.D.—The MacMillan Co., New York, 1929—Price, \$2.50.
- DISEASES OF THE LIVER, GALL-BLADDER AND BILE-DUCTS—By Sir Humphrey Rolleston, Bart., K.C.B., M.D., Hon.D.Sc., D.C.L., L.L.D., and John William McNee, D.S.O., M.D., D.Sc., F.R.C.P.—Macmillan and Co., Limited, St. Martin's Street, London.
- VARICOSE VEINS, WITH SPECIAL REFERENCE TO THE INJECTION TREATMENT—By H. O. McPheers, M.D., F.A.C.S.—F. A. Davis Co., Philadelphia—Price \$3.50.
- A STUDY OF MASTURBATION AND THE PSYCHOSEXUAL LIFE—By John F. W. Meagher, M.D., F.A.C.P.—William Wood and Co., New York.
- STERILIZATION FOR HUMAN BETTERMENT—By E. S. Gosney, B.S., L.L.B., and Paul Popenoe, D.Sc.—The Macmillan Co., New York—Price \$2.00.
- OUTLINE OF PREVENTIVE MEDICINE FOR MEDICAL PRACTITIONERS AND STUDENTS—Prepared under the Auspices of the Committee on Public Health Relations, New York Academy of Medicine—Paul B. Hoeber, Inc., New York—Price \$5.00.
- THE TREATMENT OF DIABETES MELLITUS—By William David Sansum, M.D., M.S., F.A.C.P. and Associates—Harper and Bros., New York—Price \$2.50.

BOOK REVIEWS

DISEASES OF THE THYROID GLAND

By Arthur E. Hertzler, M.D., Second Edition, Entirely Rewritten. St. Louis: C. V. Mosby Co., 1929, 286 pp.

This new edition of Hertzler's Diseases of the Thyroid Gland gives new evidence of the author's characteristic thoroughness. As a clinical text-book, many readers may take exception to the comparative emphasis given to various phases of his subject. More than a third of the volume is devoted to the pathology of the thyroid gland (the chapters on Pathologic Anatomy and Goiters in Unusual Places), while the pre-operative and post-operative care of the goiter patient (The Hospital Management of Goiter Patients, by Victor E. Chesky, M.D.) is given only one-fifth as much space. In view of the great importance of the medical care of the goiter patient before and after operation, it would seem that a full volume of the subject of diseases of the thyroid gland should give more consideration to this phase of the subject.

C. B. L.

BIRTH CONTROL

Or The Limitation of Offspring by Pre-vention. By William J. Robinson, M.D., Chief of the Department of Genito-Urinary Diseases and Dermatology, Bronx Hospital and Dispensary; Editor of "The Critic and Guide", Etc. With an Introduction by A. Jacobi, M.D., L.L.D., Late President of the American Medical Association. Forty-Sixth Edition, Revised and Enlarged. Eugenics Publishing Co., Inc., New York, 1929.

This forty-sixth edition bespeaks the popular demand for an authoritative treatise on this subject

and reflects the present interest in this problem. Dr. Robinson having devoted years of study to the problem of birth control is eminently suited to present this subject in a forceful, dignified, and withal authoritative manner. He has presented, first, a statement of the problem as it affects the individual, family group, the community and the state. He presents the chief criticism offered by the opponents of this movement and attempts in suitable paragraphs to answer such criticisms.

In other chapters, he reviews the advantages to be obtained by a program of pre-vention and a limitation of offspring. In the closing pages of the volume, he has quoted articles from the "Critic and Guide" by various authors dealing with this problem.

The book is written primarily for the layman, and since he does not discuss methods of pre-vention, may be safely recommended by any physician to his patients. A very wide distribution of this volume will do much towards creating a healthy attitude towards the problem, and for this reason, this book is unreservedly recommended.

INTERNATIONAL CLINICS

Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of Chas. H. Mayo, M.D., Rochester, Minnesota. Volume II, Thirty-Ninth Series. J. B. Lippincott Company, Philadelphia & London, 1929.

Perhaps the most outstanding of the contributions to this volume is an article prepared by Dr. Lewellys F. Barker of Baltimore entitled "Manners and Morals", an essay dealing with medical ethics.

All physicians, particularly those just entering upon a medical practice, can profit by a careful study of this discussion, coming as it does from a master in medicine.

A symposium on Pharmacy prepared by Drs. Horation C. Wood, Jr., Charles H. LaWall, and Ivor Griffith, all of Philadelphia, gives insight into the relationship possible and at this time existing between the medical profession and the pharmacist.

Of the clinical papers, those by Baehr and Klemperer entitled "Degenerative and Diffuse Inflammatory Diseases of the Liver" and that by Frances D. Murphy of Milwaukee entitled "The Syndroms of Chronic Nephritis and Their Corresponding Morphological Changes" are outstanding.

This entire volume is well worthy of careful study.

CLINICAL LABORATORY METHODS

By Russell Landram Haden, M.A., M.D., Professor of Experimental Medicine, University of Kansas, School of Medicine, Kansas City, Kansas. With 69 Illustrations and 4 Color Plates. Third Edition. St. Louis, The C. B. Mosby Co., 1929.

This third edition of Dr. Haden's already popular treatise on laboratory methods brings the volume entirely up-to-date. His chief addition in this volume is a section furnishing details of the technique of the Kahn precipitation test for syphilis. Minor revisions are noticeable in other sections. One will find in the volume such newer tests as the method for the determination of calcium and phosphorus and for the preparation of colloidal gold solution, the technique of the Van den Bergh tests for bile pigments in blood serum, the creatinine test of renal function, the phenoltetrachlorophthalein test of liver function, and a standardized Wassermann's reaction as devised by Kolmer.

Discussions having to do with the clinical interpretation of laboratory tests have been omitted from the volume, although the author has wisely included a discussion of normal values in connection with the tests reported.

As a handbook for the physician in his private laboratory or the technician in the hospital or commercial laboratory, the volume will be of eminent usefulness.

THE NEUROSES

By Israel S. Wechsler, M.D., Associate Professor of Clinical Neurology, Columbia University; Attending Neurologist to the Neurological Institute, The Montefiore and Sydenham Hospitals, New York City. Price, \$4.00 Net. Pp. 330. Philadelphia, W. B. Saunders Company, 1929.

The researches reported by Professor Freud several years ago directed particular attention to many abnormal neurological conditions which had, prior to that time, been poorly understood. Fol-

lowing these observations there was a tendency to explain all psychic abnormalities on a sex-complex basis. At the present time, there is a difference of opinion concerning the relative importance of "repression" in this type of case. Dr. Wechsler has, in this volume, written from a very sane viewpoint and is full appreciation of the Freudian theories but without an unalterable bias so handicapping former writers upon this subject. The author introduces his description of the neuroses by furnishing a chapter dealing with the history of psychiatry and the development of psycho-pathology. This chapter is followed by ones discussing the mechanism of mental processes, the etiology of the neuroses, and their classifications, clinical manifestations, diagnosis, course, prognosis, and treatment. The author has drawn freely upon current medical literature and has introduced a number of case reports exemplifying his descriptions. In the closing chapter he has furnished an outline for the proper history-taking and examination of neurological patients.

The citations to the literature are conveniently grouped alphabetically at the close of the book. This volume will appeal to the neurologist and general practitioner alike, since it details fundamental problems concerned in the proper recognition and management of the neuroses, and brings within the compass of one volume a wealth of material not easily found in neurological literature.

SURGICAL AND MEDICAL GYNECOLOGIC TECHNIC

By Thomas H. Cherry, M.D., F.A.C.S., Professor of Gynecology, New York Post-Graduate Medical School and Hospital, Etc. With 558 Half Tone and Line Engravings, from Photographs and Pen and Ink Drawings by the Author. Philadelphia, F. A. Davis Company, Publishers, 1929. Price \$8.00.

This concise treatise on medical and surgical gynecological treatment fills a unique place in medicine and is based on the author's fifteen years experience as a teacher in the New York Post-Graduate Medical School.

It is too technical for the under-graduate student, but its brief and pointed description of methods of treatment and technics of operation makes it invaluable to the practitioner and surgeon alike. Only where practical, the anatomy, etiology, symptoms and diagnosis are discussed, and then very briefly. Primarily the book deals only with treatment.

The book is divided into three parts: part one, surgical treatment; part two, medical treatment; part three, office treatment. In part one, there are chapters dealing with operations on hernias, vagina and vulva, uterus, adnexae, intestines, and bladder, with separate chapters on sutures and drainage, anesthesia, and pre- and post-operative care. In part two, there are chapters on gynecological ex-

amination, gonorrhea, diathermy, uterine displacements, sterility, and urological conditions.

Part three deals with the treatment of conditions met with and cared for in the office.

Taken in all, the book is quite complete and is worthy of a place on every doctor's shelf.

F. W. R.

THE CLINICAL ASPECTS OF VENOUS PRESSURE

By J. A. E. Eyster, B.Sc., M.D., Professor of Physiology, University of Wisconsin, Associate Physician, Wisconsin General Hospital, Madison, Wisconsin. New York: The Macmillan Company, 1929.

In this monograph, the author has discussed the mechanics of venous pressure both in health and in disease. He has outlined a standard method of determining venous pressure, offering several chapters in explanation of variations observed both with cardiac decompensation and in extra-cardiac conditions. Illustrative of the conditions, the author presents a number of clinical cases taken from his own record.

At the close of the volume is a chapter devoted to summarizing the entire subject. A complete bibliography citing 122 references is furnished. The discussion of venous pressure has been taken from the catalogue of experimental medicine and placed in that of routine clinical observation. Certainly an understanding of this mechanism will enable the clinician to evaluate in a quantitative manner many important clinical states heretofore but inadequately studied.

THE SURGICAL CLINICS OF NORTH AMERICA

(Issued Serially, One Number Every Other Month.) Volume 9, Number 4 (Mayo Clinic Number—August, 1929). Per Clinic Year (February, 1929 to December, 1929); Paper, \$12.00; Cloth, \$16.00. W. B. Saunders Company, Philadelphia.

A number presented by the staff of the Mayo Clinic. Several rare and unusual cases are presented, also some modifications in surgical technique.

We find again a complete review of the data concerning the various anesthetics used in the Mayo Clinic in 1928 with special reference to spinal anesthesia, acetylene, and carbon dioxide.

Intravenous medication is very well discussed in two articles, the first by Alfred W. Adson and Archibald H. McIndoe, "Prolonged Intravenous Administration of Gum Acacia-Citrated Blood Sequence During Severe Intracranial Operations", and the second, "The Effect on the Circulation of the Injection of 10 Per Cent Glucose and 1 Per Cent Sodium Chlorid Following Operation", by Stephen A. Yesko, Luis A. Passalacqua, and E. Starr Judd.

This volume is well worth while. F. W. F.

MEDICAL STATE BOARD QUESTIONS AND ANSWERS

By R. Max Goepf, M.D., Professor of Clinical Medicine in the Graduate School of Medicine, University of Pennsylvania. Sixth Edition, Thoroughly Revised. Octavo Volume of 754 Pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$6.00 Net.

This sixth edition brings up-to-date a volume already well-known to the medical profession. Since the introduction of this book in 1908, it has been recognized as the outstanding reference for review preparatory to examination for licensure throughout America. The material embodied in this volume is selected from state board questions asked during the past four years, and while not representing a complete list of all questions asked, it does present in their original wording the more typical questions asked. The answer to each question is furnished in condensed form, and represents the best authority on the subject at this time.

NEW AND NON-OFFICIAL REMEDIES

Abbott Laboratories:

Abbott's Viosterol Cod Liver Oil.

Ciba Co., Inc.:

Atoquinol—Ciba.

Vioform—Ciba.

Eli Lilly & Co.:

Inhalant Ephedrine (Plain)—Lilly.

Hypodermic Tablets Ephedrine Hydrochloride—Lilly, 0.016 Gm. ($\frac{1}{4}$ grain).

Hypodermic Tablets Ephedrine Hydrochloride—Lilly, 0.0325 Gm. ($\frac{1}{2}$ grain).

Hypodermic Tablets Ephedrine Sulphate—Lilly, 0.016 Gm. ($\frac{1}{4}$ grain).

Hypodermic Tablets Ephedrine Sulphate—Lilly, 0.0325 Gm. ($\frac{1}{2}$ grain).

Lilly's Ephedrine Jelly.

Ointment Ephedrine Compound.

Syrup No. 110 Ephedrine Sulphate.

Syrup No. 111 Ephedrine Sulphate.

Mead Johnson & Co.:

Mead's Powdered Lactic Acid Milk, Non-Curdling No. 1 with Dextrose.

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Sandoz Chemical Works, Inc.:

Calcium Gluconate—Sandoz.

E. R. Squibb & Sons:

Diphtheria Toxoid—Squibb, 30 c.c. vial.

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No. 11

THE TREATMENT OF EPIDEMIC MENINGITIS

PAUL F. STOOKEY, M.D.
B. LANDIS ELLIOTT, M.D.
FRANK R. TEACHENOR, M.D.

From the Contagious Service, Kansas City General Hospital,
Kansas City, Missouri

This brief study is based upon 183 cases of epidemic meningitis treated in the contagious service of the Kansas City General Hospital between September 1, 1928 and July 25, 1929. The cases reported represent the sum total of all cases received and include the services of Drs. Frank Neff, Damon Walthall, C. B. Summers, Harry Berger and O. F. Bradford, all of the pediatric service; Drs. H. M. Smith and C. E. Harris of City Hospital No. 2; Drs. W. L. Gist and Paul F. Stookey from the adult service of the Isolation Hospital. Drs. Frank R. Teachenor and B. Landis Elliott have seen the majority of these cases as neurological consultants.

Of the 183 cases received by the combined service, 93 recovered and 90 died; a gross mortality of 49 per cent. Twenty-four cases were received moribund, expiring within twenty-four hours of their admission to the hospital. Flexner's serum was withheld in several cases which were obviously dying at the time of admission. Eleven cases were under one year of age. Recovery from epidemic meningitis in infants less than one year old has occurred in the Kansas City Isolation Hospital in two instances during the past five years. The mortality past sixty years of age is well over 90 per cent. It is obvious that epidemic meningitis in the extremes of life carries a gloomy prognosis, the mortality in our experience being almost 100 per cent. Excluding infants under one year, the senile cases, and the cases received moribund, the mortality was 31 per cent. Various observers report a mortality of from 17 to 25 per cent, but these were selected cases with an early diagnosis and excluded the extremes of life. Rolleston¹ reports a six year period in England with a total of some 6,000 cases, and a mortality of approximately 65

per cent. The statistics from the United States Army² during the years 1917 to 1919 show 5,839 cases with a mortality of 40 per cent. We believe the American Army reports to be the most accurate statistics available relative to the mortality in epidemic meningitis. Approximately 6,000 cases occurring in young healthy adults with a mortality of 40 per cent, is an indication of the virulence of this particular contagious disease. It is obvious that when the cases occurring at the extremes of life, in the seniles and in infants under one year of age are included, the mortality will be in excess of the army figures.

In this series of cases, forty were between twenty and forty years of age. Of these, twenty-six recovered and fourteen died, a mortality of 35 per cent. The marked difference in the virulence of the infective agent in various epidemics is well known. This is well illustrated by a study of this infection in Kansas City during the past five years. During the year 1926 twelve cases were reported with one death, a mortality of 8 per cent. During the year 1928 eighty cases were reported with sixty-five deaths, a mortality of 80 per cent. For the period of 1924 to 1928 inclusive 150 cases were reported with seventy-six deaths, a mortality of approximately 51 per cent. These statistics were obtained from the department of contagious diseases and represent all cases reported as occurring in Kansas City. When meningococcus meningitis becomes epidemic, the virulence of the infection is enhanced. The sporadic cases are frequently comparatively benign.

Epidemic meningitis is a medical emergency. As a broad general statement, an early diagnosis during the stage of septicemia offers a better prognosis than a diagnosis established several days subsequent to the invasion of the nervous system. Contrary to this observation, the fulminating cases will frequently expire in from twenty-four to forty-eight hours in the face of intensive treatment. Epidemic meningitis is a septicemia; the infection passing over from the blood stream into the central nervous system. The stage of septicemia may be of from

eight hours to several days' duration before the organisms localize in the nervous system. The American literature^{3 4} contains reports of eighteen cases of septicemia from the meningococcus in which the infection did not invade the nervous system; and the symptoms were those of a septicemia. Flexner's serum has been used as a therapeutic agent in these cases of sepsis with excellent results. Diagnosis can only be established by blood culture. Two of our cases were chronic low grade infections with a spinal fluid cell count of less than 1,000. Both cases gave a history of two weeks' illness before entering hospital. Meningococci were recovered from the spinal fluid by culture. Recovery was prompt in both cases under Flexner's serum.

Before the nervous system is invaded, two significant findings are generally encountered, petechial hemorrhages and a marked leucocytosis; the white cell count being above 20,000 in 90 per cent of all cases. Petechiae were present in approximately 75 per cent of our cases. Petechiae and a marked leucocytosis are definite indications to suspect a beginning epidemic meningitis and are definite indications for examination of the spinal fluid.

In a well-developed case of meningitis the first puncture reveals a cloudy spinal fluid with a cell count usually of from 2,000 to 60,000. It is a good working rule that all meningitis with sound ear drums and a cloudy spinal fluid is epidemic until proven otherwise. The first fluid withdrawn offers the best opportunity to isolate the meningococcus. Subsequent to the administration of specific serum the meningococci in favorably progressing cases may be hard to find, and in our experience the first fluid most frequently contains the organism.

In early cases abortive treatment may be attempted. Flexner's serum is administered in from 100 to 200 c.c. doses intravenously once in twenty-four hours. This may be augmented by intramuscular serum along with the intraspinal use of Flexner's serum at from fifteen to twenty-four hour intervals. The intravenous method of treatment has been in our experience, efficient but by far the most dangerous. The intravenous injection of 100 c.c. of horse serum is followed by immediate anaphylactic reactions in from 10 to 20 per cent of all cases where this method of treatment is instituted. The serum should be warmed in a water bath to body temperature and injected not to exceed 1 c.c. per minute. Sensitization tests, both skin and ophthalmic, should be carried out before this procedure is attempted. Unfortunately, in our experience these tests have not been accurate indicators of the anaphylactic state. If a history of the previous use of horse serum can be obtained, treat-

ment by this method should be instituted only with extreme caution. In our experience, this has been an extremely dangerous method of treatment and should be used only in the fulminating cases seen early in the stage of septicemia.

Later in the course of the disease, when all evidence of septicemia has passed and the infection is localized in the brain and cord, intravenous Flexner's serum is not indicated. The infection unquestionably involves first the brain, and the cord secondarily, the organisms going over from the blood stream through the choroidal plexus. Many observers contend that the cortex is involved primarily along with the lining of the ventricles. Sophian,⁵ in his excellent monograph, calls attention to the fact that the various immune bodies are present in the blood, but not in the spinal fluid. This fact along with the questionable permeability of the choroidal plexus to the immune substances, makes the intraspinal treatment the method of choice subsequent to the stage of septicemia. We believe intramuscular serum is of value in all stages of the infection, but in the early stage of the disease it is especially indicated. Lumbar puncture in epidemic meningitis with marked opisthotonos is at times difficult. In patients which demand restraint ether must occasionally be administered before puncture is possible, but this is exceptional. A preliminary dose of morphine as a routine is to be recommended. The tendency of patients suffering from epidemic meningitis to bleed is well illustrated by the spontaneous hemorrhages occurring in the skin in the preliminary septicemic stage. The tendency to bleed is frequently encountered subsequent to lumbar puncture; the spinal fluid is blood stained and a clot forms of such size as to block the flow of spinal fluid. In one case in our series which came to post-mortem, a clot extended the length of three intervertebral spaces. Attempts at lumbar puncture were abandoned and puncture done in the great cistern. Three subsequent cases presented this complication and treatment was instituted by puncture of the great cistern. All three cases made an uneventful recovery. Jelliffe and White⁶ report this complication as seldom producing evident consequences.

The use of the cisterna magna as a route for the administration of Flexner's serum in epidemic meningitis is advocated by many observers; the points of superiority over the lumbar route being that the cisterna magna is the distributing center for the system of basilar cisterns, and that the administered serum actually comes in contact with the base of the brain and circulates through the system of cisterns.

Ayer⁷ has shown that 30 c.c. of India ink injected into the lumbar subarachnoid space of a

cadaver barely reaches the base of the brain. The introduction of the same amount into the cisterna magna stains the whole cerebral cortex as well as the basilar cisterns. Cisterna puncture allows serum to be introduced where it can obtain maximal distribution over the areas first affected in meningitis. This fact is a strong argument for the use of the cisternal route as a routine procedure in all cases. We have utilized puncture of the great-cistern in approximately fifty cases which did not respond to lumbar treatment and we are convinced that the procedure is frequently followed by therapeutic results not obtained by the lumbar route. We have also observed that patients who show evidence of anaphylactic reaction subsequent to the administration of serum do not respond well to cisternal instillation of serum. If the case under treatment shows a reaction from serum, it may be assumed from our experience that a more violent reaction will occur from serum introduced into the cistern. We therefore believe that cisternal treatment should not be begun until after the reaction to horse serum has been determined. If the patient shows no evidence of anaphylactic reaction and the spinal fluid does not clear rapidly under treatment by the lumbar route, cisterna puncture is indicated.

We have not observed post-mortem edema of the brain subsequent to cisterna puncture in individuals who showed some degree of reaction to the intraspinal use of horse serum; however we have formed a clinical impression that such individuals do not respond well to treatment by cisterna puncture. This clinical fact can only be explained by an edematous reaction to horse serum on the part of the brain, which is similar to the edema which forms at the site of injection of horse serum in individuals who are slightly sensitive to it. Such a reaction occurring in a group of muscles is of but little clinical significance; occurring in the brain it would be a disaster. It is our clinical impression, as stated above, that this reaction does occur, and we advise caution in the use of the cisterna magna for the introduction of serum in individuals who are sensitive to horse serum.

The phenomenon of Froin, in which the spinal fluid is yellow in color and coagulates into a gelatinous mass, is occasionally encountered. This occurred in six of our cases. The phenomenon, when fully developed, is a fore-runner of death. This condition may be responsible for the operator's failure to obtain fluid during attempted lumbar puncture. More frequently a few drops will escape from the lumbar puncture needle and the flow of spinal fluid will stop. Examination will show a coagulum in the receiving test tube. We have received this spinal fluid in 2.5 per cent sodium citrate solution, and have found that under these circumstances co-

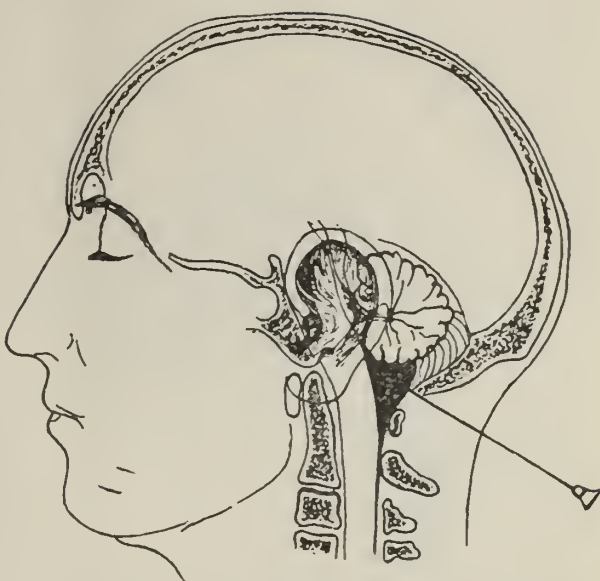


FIGURE 1

Scheme of intra-cerebral circulation of cerebro-spinal fluid.
(From Dandy, Johns Hopkins Hospital Bulletin)

agulation does not occur. We have also found that the coagulated spinal fluid can be dissolved in dilute sodium citrate solution. We hope to report our observations concerning the phenomenon of Froin at a future date.

Cases of epidemic meningitis which die subsequent to the fifth or sixth day of the disease, in a vast majority of cases present some disturbance of the circulation of the cerebro-spinal fluid, ordinarily spoken of as block. This term is frequently encountered in the literature, but post-mortem studies of such cases are not plentiful.

A clear comprehension of block requires an acquaintance with the principal points in the anatomy of the brain and spinal cord with particular reference to the circulation of cerebro-spinal fluid.

At about the fifth week of intra-uterine life the choroidal tufts appear, and at the same time cerebro-spinal fluid bursts through the roof of the fourth ventricle and spreads through the subarachnoid spaces.⁸ In fact the meningeal spaces are produced by the seepage of this fluid through the roof of the fourth ventricle, breaking down the perimedullary mesenchymal syncytium.

The cerebro-spinal fluid is secreted principally by the choroidal plexus. This secretion receives comparatively unimportant additions from the ependyma lining the ventricles, from the perivascular channels over the surface of the cortex, and from the posterior lobe of the hypophysis.

The fluid flows through the foramina of Monro, (figure 1) from the lateral ventricles into the third ventricle. It flows from here through the aqueduct of Sylvius into the fourth ventricle, and from

here gains access to the cisterna magna and the basilar system of cisterns by way of the foramina of Magendie and Luschka. The cisterna magna may be regarded as the distributing center of the cerebro-spinal fluid, as from here the fluid gains access to the other cisterns and to the cerebral and spinal subarachnoid spaces. Absorption of the fluid is through the arachnoidal villi into the cerebral sinuses, or into the veins of the meninges. It has been the teaching that the cerebro-spinal fluid passes downward into the subarachnoid spaces of the spinal cord, traveling downward on the posterior aspect of the cord to its lower end, then upward on the anterior aspect. This circulation however has been disputed, and experimental work has tended to show that it is probably of little importance, and on this basis the whole theory of intraspinal treatment has been attacked.

Interference with the circulation of fluid from the ventricular system, or interference with circulation and absorption from the subarachnoid system give rise to the condition known as block. Obstruction of one foramen of Monro results in a unilateral hydrocephalus. Signs of increased intracranial pressure may be evident with contralateral weakness or possibly hemiplegia, and dilatation of the ipso-lateral pupil. Bilateral obstruction of the foramina of Monro results in bilateral hydrocephalus with increase of intracranial pressure. This is rare in acute epidemic meningitis. Obstruction of the aqueduct of Sylvius results in dilatation of both lateral ventricles and the third ventricle, and the production of an internal hydrocephalus. Obstruction at the roof of the fourth ventricle, foramina of Magendie and Luschka, result in dilatation of the entire ventricular system with marked ataxia, respiratory symptoms, and evidence of marked internal hydrocephalus. In the latter three conditions there is marked reduction in the quantity of cisternal and spinal fluid because of interference with flow of cerebro-spinal fluid from the ventricular system into the subarachnoid system. There is likewise an increase in cerebral symptoms and signs of intracranial pressure. It must be remembered that the subarachnoid space is not a wide-open space, but a trabeculated one, and these traveculae may be partially obstructed by plastic exudate or adhesions.

The diagnosis of obstruction or block is at times baffling, and particularly is the localization of the block difficult. Surgical means may be required to localize the block and to release it. When localizing signs are present, the ventricle indicated by the neurological signs should be tapped, otherwise the right ventricle is selected. After ventricular drainage, anti-meningitic serum may be administered directly into the ventricle. We generally se-

lect the posterior horn of the lateral ventricle for the tap rather than the usual trephine in the region of the coronal suture. This is done in order to prevent a hemiplegia should the serum be accidentally introduced into the brain substance instead of the ventricle. Ventricular puncture should be repeated once or twice daily until the pressure is controlled, or strands of silkworm gut may be passed through the needle into the ventricle and left for temporary drainage. Fifty per cent glucose solution intravenously aids absorption and tends to reduce the severity of the disturbances set up by block.

The subarachnoid system is most frequently blocked or obstructed at the arachnoidal villi, in the basilar cisterna, or in the spinal canal. Failure to obtain cerebro-spinal fluid on attempting lumbar puncture may be due to the formation of a blood clot as referred to above, to coagulation of the fluid, or to spinal block. If spinal block is present, the spinal manometer fails to show any increase of pressure, only a few drops of fluid are obtainable, and the Queckenstedt test shows a block. If the needle be now introduced into the cisterna magna, the pressure here will be found to be increased, and comparison of the fluids obtained from the lumbar space and the cistern shows a difference in the cell count; usually a higher count in the lumbar fluid. What is the cause of block in the spinal canal? Our experience has convinced us that the most important cause is edema and swelling of the cord. Autopsies on four patients who died with spinal block showed marked edema and swelling of the cord. The pathological report on these cords showed edema in the substance of the cord, with purulent leptomeningitis. We previously had entertained the idea that adhesions played an important role in this respect, but have now abandoned this idea although not disposed to deny that exudate in the subarachnoid space may have something to do with it. The swelling has a tendency to occur especially at the cervical enlargement. This edema of the cord may explain the wide variability in knee jerks which is observed during the course of epidemic meningitis.

Spinal block is more common in infants than in adults and in our opinion is related to the increased size of the cord in proportion to the size of the vertebral canal in the former. Theoretically block should be more common in infants, and in our experience this is true. We are of the opinion that this fact has something to do with the terrific mortality in young infants less than one year of age.

Hypertonic glucose solutions administered intravenously are most important in the treatment of this condition. Twenty-five to 50 c.c. of a 50 per

cent solution should be given twice daily. Spinal block makes it imperative to seek some other route for drainage and for the administration of serum. We are in the habit of performing puncture of the cisterna magna for the purpose of draining off fluid and administering serum. Five cases of spinal block treated in this way were relieved, and recovered. After relief of the block, spinal fluid could be obtained from the lumbar region. Spinal block makes it imperative to seek some other route for drainage and administration of serum.

Probably next in importance to spinal block is obstruction to the absorption of cerebro-spinal fluid in the subarachnoid system, probably at the arachnoidal villi according to present knowledge. This means that the greatest medium for the absorption of cerebro-spinal fluid is obstructed. It results in a damming back of fluid into the subarachnoid and ventricular systems. An abundance of fluid is obtained by spinal, cisternal, or ventricular puncture, and with considerable increase of pressure. These patients do not respond well to intraspinal serum, but frequent spinal or cisternal drainage, administration of serum, and of intravenous glucose may be followed by good results.

Obstruction of the basilar cisterns sometimes occurs and offers a bad prognosis. As mentioned above, exudate may stick in the trabeculated spaces, and obstruct the cisterns at the base, causing pressure and inflammatory reactions in the region of the cranial nerves and medullary centers. Opisthotonus is at its height in basilar block. Posterior basilar meningitis, with its high mortality is of course well known. Cisterna puncture is its greatest relief, but may not be followed by good results.

In attempts to overcome spinal block and to find a more direct and more effective route for therapy, various expedients have been used. Those who deal with meningitis in young children have been particularly insistent on the necessity of serum injection at higher levels, and the pediatricians have used and recommended cortical subarachnoid puncture. In France, cervical and thoracic puncture of the spinal subarachnoid space has been resorted to, and in Germany Beriel's sphenoid puncture of the cisterna chiasmatis.

We have, as stated above, employed puncture of the cisterna magna rather extensively. For many years puncture of the cisterna had been employed to obtain cerebro-spinal fluid from laboratory animals, but it had been supposed to be too dangerous for use in the case of human beings. In 1920, however, Ayer of Boston performed the first cisterna puncture on a patient, and since then it has come into general use.

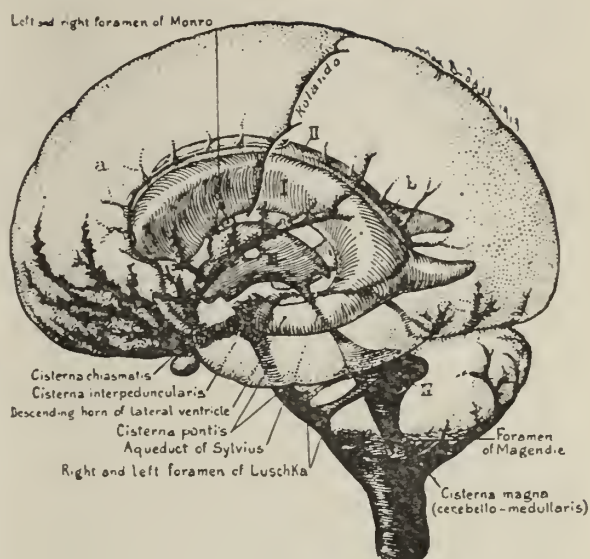


FIGURE 2
Technique of puncture of the cisterna magna.
(From Purves Stewart)

Ayer⁹ has reported 1985 cisterna punctures successfully performed on 450 patients by several different operators, with no serious accidents. Ebaugh reported 1550 successful punctures personally performed. About 1000 of these are included in Ayer's report. Many other reports can be found in the literature emphasizing the simplicity and absence of unpleasant sequelae of this procedure.

In performing cisterna puncture, the needle is introduced in the depression which can be easily felt with the forefinger between the occipital bone and the spine of the axis or second cervical vertebra. Under local anesthesia, and observing all of the precautions as to asepsis, etc., employed in lumbar puncture, the needle is advanced forward and upward in a line intersecting the external auditory meatus and the glabella. (Figure 2.) Fluid is encountered at a depth which in the average adult is rarely less than 3.5 cms. and rarely exceeds 6 cms. The needle should not be advanced to a greater depth than 6 cms. In young infants we have encountered fluid at a depth of 2.5 cms., and in these patients the needle should be advanced cautiously, withdrawing the stylet from time to time, until it is felt to penetrate the dura, and fluid is obtained.

Like all other surgical procedures, cisterna puncture is an encroachment on the intact condition of the body, and has certain dangers. It should not be attempted by the novice, but one skilled in spinal puncture technic is likely to find it even easier than lumbar puncture. Those most expert in its use are agreed that with proper care the dangers are not greater than those of lumbar puncture. Ayer describes various "unpleasant inci-

dents" which include dizziness with nystagmus, nausea, pain in the face, etc.

A few cases of death have been reported during or following cisterna puncture. For light on the causes of death one must turn to the German literature, for here are found autopsy reports which make clear the causes of disaster. The greatest psychological hazard is fear of puncturing the medulla, but if we exclude the cases in which the technic of the puncture was obviously not correctly carried out, and the necessary safeguards were disregarded, we find that this hardly figures in the mortality.

Steindl¹⁰ reports a case of brain tumor in which pulsating arterial blood spurted from the needle, which autopsy showed had been introduced into the left vertebral artery, which was displaced from its usual position. Nonne has reported the case of a seventy-nine year-old man with arterio-sclerosis in whom arterial blood flowed from the needle. Autopsy showed two widened aneurysmal branches of the posterior inferior cerebellar artery punctured by the needle. There was a very marked sclerosis of the vessels in this case. Suffice it to say that perusal of the literature leads to the conclusion that if the usual safeguards are respected, and the technic correctly followed, puncture of the medulla is a remote danger. In cases where the blood-vessels are altered by changes in their walls which cause them to be displaced, some unavoidable accident may occur. In any case, in the presence of an emergency such as meningitis, such remote dangers may be disregarded.

The regaining of consciousness by the meningitis patient is a good prognostic sign and generally precedes a reduction of the cell count in the fluid by at least twenty-four hours. Increased pressure in the spinal fluid is present in the vast majority of cases; above 25 to 30 mm. of Hg. arouses a suspicion of some hindrance to the absorption of cerebro-spinal fluid and is to be regarded as of bad prognostic significance. The intravenous injection of 20 to 50 cc. of 50 per cent glucose solution will reduce the pressure, but the action is transitory. This procedure should be carried out in all cases where the elevation of pressure is an outstanding feature. In one of our cases, four hours before death the spinal pressure was 90 mm. Hg.

Relapses occur in about 10 per cent of all cases and offer a discouraging prognosis. Degeneration of the auditory nerve is the most frequent complication. Panophthalmitis occurred in two of our cases. The embolic shower of meningococci through the ophthalmic artery involves all the structures in the orbit. Vision is lost as the result. Serum sickness comes in almost every case—from the fourth to the fifteenth day. The problem of

when to discontinue treatment is perplexing, as elevation of the pulse and temperature are frequently due to the administered serum. We have adopted as a routine, that when the cell count in the spinal fluid is reduced to 1000, a differential count is done and when the mononuclear elements are equal to the polymorphonuclear cells, the treatment is discontinued.

In all cases which do not respond to serum, the natural reaction is to look with suspicion on the serum used, and the brand of serum should be changed. That part of the immunity necessary to recovery is contained within the host and is established by the following circumstance: Two sisters well along in years visited each other, and both were seized with meningitis practically simultaneously. We have every reason to assume that the same strain of organism was responsible for the infection in both cases. One woman responded well to treatment and made a rapid recovery; the second did not respond to Flexner's serum although serum made by three different manufacturers was administered.

SUMMARY

1. A patient suffering from an acute infective process with petechial hemorrhages and a leucocyte count of over 20,000 is to be suspected of early epidemic meningitis.
2. Intravenous Flexner's serum in early epidemic meningitis is an efficient method of treatment, but the danger from anaphylaxis is great.
3. Fifty per cent glucose solution intravenously is of service in cases where increased intraspinal pressure is present and in cases of spinal block.
4. In our experience, block at the arachnoidal villi and in the spinal canal are the blocks of greatest practical importance. Spinal block is usually due to edema and swelling of the cord.
5. Puncture of the cisterna magna, with administration of Flexner's serum is indicated in cases of spinal block, is frequently followed by better therapeutic results than treatment by the lumbar route, and is indicated in all cases which tolerate horse serum well.

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UNDULANT (MALTA) FEVER IN IOWA

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Director, State Hygienic Laboratories, Iowa City

That physicians may be acquainted with the present knowledge of undulant fever in Iowa and that there may be a closer cooperation in the further study of this newly recognized ailment, the following brief report is presented.

Incidence—The number of recognized cases in Iowa is now (September 20, 1929) more than three hundred. Of greatest significance, however, is the fact that an increasing number are being detected. This is well shown by a consideration of the number of positive agglutination tests obtained at this laboratory. During July and August, 1929, there were positive macroscopic agglutination tests on fifty-two new cases. In addition to this there were a few "doubtful" macroscopic tests and some positive microscopic tests (performed on the dried blood). These undoubtedly will be found to include additional clinical cases of undulant fever. For the same months one year ago there were recognized but twenty-six cases and two years ago five only, while three years ago it was not known that the disease occurred in the state. These figures indicate undoubtedly but an increasing recognition of the clinical entity, not an increasing occurrence of the infection. The actual prevalence of undulant fever in the state is at present, we believe, quite unknown and the determination of this is the most urgent problem in the study of the infection. Accurate knowledge can be obtained only through the active cooperation of every practitioner in the state. This disease must more commonly be considered in differential diagnosis and the free services of the State Bacteriological Laboratory should be more frequently used to obtain the laboratory data which is usually of first importance in accurately diagnosing undulant fever.

Distribution—This is clearly shown by the map in figure 1. The disease is now known to occur in seventy-eight counties and no locality can yet be regarded as free from the infection. It is also evident that the disease is more common in rural districts; whereas in cities, except among packing house employees, cases are relatively infrequent.

Sex and Age—In Iowa undulant fever involves males three to four times as frequently as females. No age group is exempt but among the middle aged the incidence is highest.

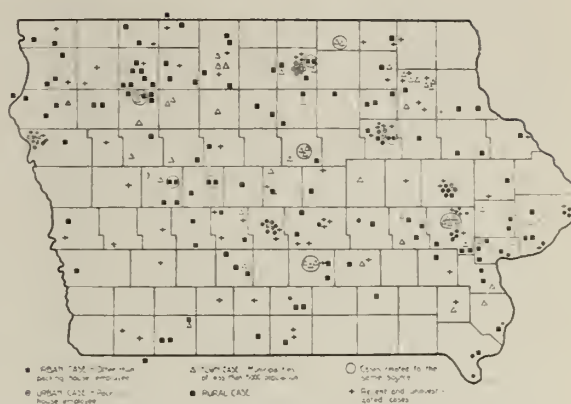


FIGURE 1

The distribution of recognized undulant fever in Iowa.

Clinical Characteristics—Early observations have already been reported^{1,2} and on request reprints dealing with the clinical characteristics will gladly be sent. At the present time, since we do not yet know how diverse the manifestations of this infection may be, undulant fever should be considered in all febrile illnesses in which the etiology is unproven. Certainly the experience with cases to date, justifies one in urging that such diagnoses as "intestinal flu", typhoid and paratyphoid fever, influenza (except during epidemics), malaria and septicemia from foci of infection, be reserved 'till undulant fever has been properly considered. An observation of the diagnoses which have been erroneously given in cases of undulant fever impresses one with the necessity of ever having it in mind. It may be met and missed by surgeons and gynecologists as well as internists and general practitioners. Cases of abortion in humans, for example, have recently been reported in which *Br. melitensis*, variety abortus, the organism of undulant fever, was isolated from the foetuses. Whether this infection is only an unusual cause of abortion might be determined in Iowa if blood specimens for the agglutination test were sent to the laboratory in all such cases, with a notation on the data card that the specimen was from a patient who had an abortion.

Though valuable data may be obtained from the collection and tabulation of the observations made during office consultations and home visits, still a detailed clinical and bacteriological study of cases is needed. Therapeutic procedures, particularly, must be investigated. A fund for such a study is now available, a part of this being contributed by the Committee on Scientific Research of the American Medical Association. Patients to be studied and treated will be admitted to the Medical Service of the University Hospital, and hospital expenses at clinical rates will be paid from the fund. Indi-

gent "state cases" should be admitted in the usual way. The interest of practitioners in selecting and referring patients is essential. Correspondence regarding this should be addressed to the writer.

The Sources and Modes of Spread—In Iowa the common source includes both cattle and hogs with contagious or infectious abortion. Other sources must be further considered. We have at hand evidence in one case seeming to indicate that a dog naturally infected with *Br. melitensis* was the source, and in another an infected pet rabbit was involved. The infection is spread from diseased animals to humans both through the ingestion of raw dairy products and by handling infected livestock, meats or dairy products. Studies to obtain more certain evidence on these points is required. Through the continued cooperation of the U. S. Public Health Service and the State Department of Agriculture, and with the increasing interest of practitioners we hope to obtain adequate epidemiological data on each case. To assist in gathering these data we plan to continue for some time visiting all cases. Owing to the sporadic occurrence of the disease this visit will often be during or after the patient's convalescence.

Laboratory Tests—The diagnostic test of chief importance in undulant fever is the agglutination test. We wish here to again point out that the microscopic test on the dried blood is always less reliable than a test using the blood serum. The State Bacteriological Laboratory is now preparing for distribution an agglutination test outfit to be used in mailing the whole wet blood specimens for the agglutination test. It is similar to the Wassermann containers. The use of this newly distributed outfit with pink labels and data cards will insure more prompt service on the agglutination tests. Since the test on the dried blood is of less diagnostic value in typhoid fever and of uncertain value in undulant fever, we believe that one to three c.c. of whole blood should always be sent for any agglutination test.

Blood cultures are desired particularly during the period in which this fever is being studied. Proper medium will be sent with the first positive report on cases. This should be inoculated with 10 c.c. of blood collected with particular care to prevent contamination. This should be sent to the laboratory for examination, preferably after four days of incubation. One negative blood culture is of no significance in diagnosis but one positive culture contributes valuable knowledge.

Prevention—Adequate and applicable measures for the control of undulant fever in Iowa must be determined by further study. The pasteurization of dairy products will prove effective and applicable only in large towns and cities where compara-

tively few cases are occurring. In small towns and rural districts, this method, even if applied, would fail to prevent many of the cases. The control and ultimate eradication of contagious abortion, the ideal method of controlling undulant fever, presents a problem equal, or even exceeding that of the eradication of bovine tuberculosis. As physicians, therefore, we can wisely be slow in advocating any general plan for the prevention of undulant fever. We must accumulate data as rapidly as possible, define and determine the magnitude of the problem and then formulate and vigorously advocate the effective and applicable measures for control.

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ADDRESS OF THE CHAIRMAN, SECTION OPHTHALMOLOGY, OTOTOLOGY AND RHINO-LARYNGOLOGY*

JAMES A. DOWNING, M.D., Des Moines

I wish to acknowledge the honor which has been conferred upon me by our worthy President, Dr. McManus, and to offer my most sincere thanks to all the contributors on the program, and especially our guest, Dr. Blakesley, of Kansas City. I also wish to personally thank our chief school physician, Dr. Moore, and his assistant, Miss Johnson, for their group audiometer demonstration, particularly in view of the fact that this was a last-minute addition to the program in answer to a request by some of the members. They very heartily and willingly cooperated, bringing their statistics and data up-to-date, in order that we might have as much information as possible. It was not without a very considerable expenditure of energy on their part, that it was possible to put on this demonstration for the visiting men.

I appreciate the number of members in attendance, particularly in yesterday's general session, listening intently to Dr. Harkness so ably set forth his portion of the symposium, and trust that we may all be benefited by getting together, and hope that we all will absorb in a certain measure, some of the problems of internal medicine, as well as our own special line of endeavor.

In these days of hurley-burley in the waking hours, and jazz nights, when we are able to cross the continent in a leap and a bound, and we pick our music out of the air, and take our sunshine by ultra-violet, and our exercise Lord knows when, it

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behooves us to stop occasionally and take stock of ourselves, even if it be only in the cold gray dawn of the morning after.

One question that arises, naturally, is where do we, as men who are doing a special line of work, fit into the whole general economy of the practice of medicine? Are we only specialists, or do we occasionally gaze beyond our narrow line, and see not only a disease, but a patient to be relieved of physical distress? In the routine daily grind, we are prone to lose sight of the fact that we, as specialists, are only dealing with a very small portion of the human anatomy, whose local function will rise and fall with the general metabolic disturbance, even as the tides in a lagoon follow the rise and fall of the great seas, and that very often the local disturbances which perplex us, are only some evidence of some general systemic disease.

I wish to read to you two paragraphs culled from a lecture by Sir Richard Lake, eminent otologist, of London, which were the opening of an essay delivered by him on "The Reflection on the Relationship of Diseases of the Ears and Nose to General Medicine", quoting as follows:

"In view of the fact that specialism tends to narrow-mindedness, and even bigotry, and that the natural tendency of specialism is that the specialty in which the individual is engaged, tends so to obsess the mind to the exclusion of general pathological conditions, that they are frequently considered by him as originating, or at least to be in some measure due to diseases which lie within the small compass of these powers. For these reasons, gentlemen, I shall ask your kind indulgence and your least critical attitude, while I recite to you a few thoughts on the relationship of general medicine, and certain specialties with which I have, and have had some acquaintance."

"As an example, one may quote the case in which a rhinologist is reported to have treated rheumatism by cauterization of the nasal mucosa. While to a certain extent the truth of this contention must be admitted, it should also be pleaded that this is true only in part, and that the specialist has before now rendered great service to medicine at large, and that in those cases where the specialist belongs to that class which comes within the category just referred to, it is largely due to the very faulty methods which are in vogue in the present day, both in the teaching of the various specialties, and in the ease with which an individual can dub himself a specialist."

The men associated with teaching institutions are particularly fortunate in that their duties call for daily contact with both students and the other branches of the profession. This broadens their outlook and keeps them alert and up-to-date, such as no other means affords. Well balanced group medicine follows as a close second.

We who are in private practice are not so fortunate. We are not associated with teaching institutions, we are not in intimate contact with in-

ternists, pediatricists, surgeons, and the like, and we are prone to get in a rut, and our visions become narrowed, bounded only by the horizons of our own tiny specialty, and a plea for better knowledge of general internal medicine is the only and the most important message that I wish to leave with you today.

The formation of congenial souls into study clubs, composed of men of all the branches of medicine, meeting at regular intervals, discussing subjects of all types, from as many angles as possible, I really feel is the most worth-while type of medical work which can be done by men in their own local community. I would not for a minute detract from the local county society, which of course should come first in our minds, but this should be a most valuable adjunct to the local society, being a small group where opinions can be freely out-spoken, and where arguments can be started and finished without fear or censure.

We, as specialists, must not lose sight of the fact that we must first be physicians, and then specialists. We must be able to see farther than the local part examined, and remember that we are treating a patient, not a symptom. We must also be able to recognize the early manifestation of systemic disease in these highly specialized portions of the human anatomy, so that by early recognition we may secure for our patient intelligent, cooperative supervision, thus contributing our bit to preventive medicine, and helping to lengthen the span of human existence.

STRABISMUS AND AMBLYOPIA*

HAROLD J. MCCOY, M.D., Des Moines

Hippocrates noted the two varieties of strabismus, the paralytic, and comitant. Galen in 131-210 A. D., gave a fairly good description of the ocular muscles.

Fallopian in the sixteenth century gave us our first accurate description of the extra ocular muscles.

Palus Aegineta, later, Ambroise Pare, speak of squint and a method of correction by a mask with pin hole apertures, for seeing through.

Antoine Maitre, January, 1707, stated that some authors claimed malposition of the crystalline lens caused squint, others that imaginary vices of the visual spirits. Some claimed that it is due to contraction of spasm of the ocular muscles, and

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in the same discourse mentions that objects look larger to patients who squint.

In 1727, appeared the bombaster, John Taylor, an itinerant oculist of Norwich, England, who went about curing squint by cutting the conjunctiva, at the inner canthus, occluding the good eye to cause the use of the squinting one.

There is evidence that he did put eyes straight by operating, but what he really did will remain a mystery.

An event of historical importance in the treatment of squint was the recommendation of Buffon, 1743, to cover the good eye and force the use of the squinting one, and thus improve its vision and aid in cure of squint. He also recommended the use of glasses in certain conditions, thus he might be said to have been the first to inaugurate the two most beneficial and most frequently used non-surgical aids in the treatment of squint. Erasmus Darwin indorsed the idea of Buffon, that defective vision caused the eye to squint.

Tenon, in 1806, gave that most comprehensive anatomy of the orbit, and in particular the description of the capsule which bears his name, and this information without doubt has had much to do with subsequent treatment of squint.

In the first third of the nineteenth century was the first definite effort to treat squint surgically; Delpech's operation of dividing the tendon of Achelles, in 1816, might be called the forerunner of tenotomy. In 1827 Anthony White suggested the cure of squint by means of tenotomy. Paulu, of Landeau, was probably the first to attempt a tenotomy of the internal rectus on the living as recommended by Anthony White. This was a failure.

The first authentic tenotomy for relief of squint was performed by Dieffenbach of Berlin, on the twenty-sixth day of October, 1839. In order to increase his results he later cut the muscle through its body doing what is known as a myotomy. The results were not good due to the over correction that took place.

About this time a Von Graefe adopted a more conservative procedure, which consisted of a tenotomy done close to the sclera, followed by a conjunctival stitch, much as it is done today.

In 1842 Dieffenbach did an advancement to correct one of his over corrected myotomy operations, without success.

Guerin, of Nancy, in 1849 gave a practical procedure of advancement but the more accurate description of an advancement operation was by a Von Graefe in 1857. This was the famous Faden operation. The same year G. Critchett, of London, described his three stitch operation, of which

Beard has said, "might be called the parent of the most modern advancement operations". In 1897, Landolt made some improvements on Critchett's advancement, which operation is extensively practiced at present. Almost every advancement operation since has been more or less a modification of Critchett's or Landolt's.

In all such operations, the element of inexactness in the preoperative measurement of squint, and want of proper gauging of the operation, and hence a variance of end results obtained is present. This inexactness also was true for the combined tenotomy and advancement so ophthalmologists were discouraged in operating upon children at an early age before the vicious habits were formed and before it was too late to secure the aid of nature in providing that all important function, binocular vision, or fusion of the two images to aid us in obtaining and maintaining straight eyes.

De la Hire and Buffon saw some other cause than the over acting muscle or a weak external muscle. De la Hire saw a defect in the retina. This is the first mention of the fusion theory and Buffon saw in 1743, the inequality of the two eyes and even recommended the use of glasses, though admitting he did not yet know how to advise their use. Donders later worked this idea out as used today.

Von Graefe observed that "there was a disturbance of accommodation, and this caused an irregular contraction upon the affected muscle", and he also observed certain cases in which, "pathologic convergence occurred only with accommodation for near objects". He recognized that the accommodation and convergence and the refraction all had some relation to certain cases of squint but it was left for Donders to definitely explain these relations, which he did in his classic "Anomalies of Accommodation and Refraction", 1864.

In order that strabismus or squint may be rationally treated it will be necessary here to give in detail the various ideas as to the etiology of squint. There are many ophthalmologists who favor one or the other theory or a combination of two or more theories.

The theories of the cause of squint must be discussed under the four following heads:

1. Muscular.
2. Accommodation theory of Donders.
3. Fusion theory of Worth.
4. Nervous theory, which is supported by Oscar Wilkinson, of Washington, D. C.

1. The muscular theory attributes the defect to an over or under acting muscle. This held the most prominent sway until the middle of the eighteenth century. There must be some truth in

this theory for we have cases of squint where operations on the muscles, corrects the squint. It is at least a factor in consideration of squint which will be discussed under treatment.

De Graefe is very decided and admits the muscular theory exclusively. He believes there is a disproportion between the average length of the muscles.

Duane says "many cases of squint do develop out of a true muscular defect, of congenital origin".

Savage says, "The foundation for each tropia is a similar intrinsic phoria, e. g., and esotropia caused by hyperopia alone will be periodic and never permanent. The plane of action of the superior and inferior recti, is such that they do not turn the eyes respectively up and down alone, but they also turn them in." A similar imbalance according to him is present in other tropias.

Parinaud disagrees with the foregoing on the basis that squinting eyes, when the patient is anesthetized, are straight. Also esotropia is often corrected when the hyperopia is corrected by glasses.

He further says: "The primitive alteration of the muscles, their congenital feebleness, does not play any part at all in the pathology of squint." He claims the trouble to be in the innervation of the muscles and the relation of this innervation to convergence.

It is furthermore antiphysiological to admit that a muscle is from birth too feeble for the work which it should normally do. Of all the bodily tissues, the muscle is the one which adapts itself most easily and readily to the demands made upon it, when proper nerve supply is afforded. This adaptation is not only dynamic but anatomic, and bears on its size and its length.

The fact that the eye muscles do have this property of adaptability, permits us to operate so freely without bad results. It would appear then, that squint would not occur if the muscles had sufficient and proper stimuli through their nerves.

Let us see what the next theory has to offer, e. g., the accommodation theory of Donders. Donders observations were that strabismus convergence almost always was associated with hypermetropia, and his idea was that excess power required for accommodation over-stimulated the associated convergence, resulting in internal squint. But we have many, in fact, most of our hyperopes have no squint. Therefore that is insufficient to explain converging squint. There are conditions in hypermetropia which do tend to bring about converging squint e. g.

1. Those things which diminish the value of binocular vision, e. g., poor vision in one eye due to refractive errors, congenital defects, spots in the cornea, etc.

2. Those things which render the convergence easier.

(a) Peculiar structure or nervation, etc. He claims that in very high hyperopia internal squint is not so common as in moderate degrees, because of the lack of accommodative effort in high degrees and in paralyzed accommodation or as the accommodation gets weak with age, strabismus is little liable to occur.

Donders also observed that strabismus divergens was usually associated with myopia, but this has many exceptions also. Zentmayer feels that the accommodation theory accords best with the foregoing statements, while Stevens says, "Turning to the anatomical side of the question we find nothing to sustain the propositions of Donders, e. g., the nerve centers controlling accommodation is distinctly separated from the convergence center and the nerve fibers from each pass separately, out from the brain." Such considerations suggest that these two functions which usually act in close agreement, so act as a result of habit, not of organic association. Please keep this in mind for consideration in treatment.

The fusion theory of Worth is familiar to you all, and in short means the seeing of a single object with each eye, as one object. The conditions necessary for binocular vision are, a healthy macula in each eye, presided over by a healthy cerebrum. The rays of light must focus on the macula, in all meridians, without too much effort, and the visual acuity must be many times greater at the macula than at any other part of the retina. Where this is true, the retinal reflex from the macula will send in a sufficiently strong stimulus to go out to the external ocular muscles to produce parallelism and visual fusion, providing there is no marked weakness or paralysis of a muscle.

With normally functioning eyes, a phoria or tropia present there should be diplopia which is a very antagonizing and uncomfortable condition. The eyes either line up and the images are fused, or there is a suppression of one image in one eye or the eye turns out of the field of vision of the macula where diplopia is slight or doesn't exist.

Claude Worth's theory is as follows: "In a case of convergent squint there is in addition to the most obvious symptom, the deformity, always a defect of the fusion faculty, and there is nearly always a suppression of the vision of the deviating eye. In the human infant the motor coordinations of the eyes are already partially developed at birth. During the first few months of life these serve (in the absence of any disturbing influence) to maintain approximately the normal relation and direction of the eyes. Soon the fusion faculty begins to develop. I have found distinct evidence of binocular

vision in the sixth month. Normally the development of the fusion faculty is well advanced by the twelfth month, and complete before the end of the sixth year. When the fusion faculty has begun to develop, the instinctive tendency to blend the images formed in the two eyes, the desire for binocular vision, as it is called, will keep the two eyes straight. When the fusion faculty is fairly well developed neither hypermetropia, nor anisometropia nor heterophoria can cause squint. In fact then nothing but an actual muscular paralysis can cause an eye to deviate in which case the resulting diplopia is intolerable. Sometimes, however owing to a congenital defect, the fusion faculty develops later than it should, or it develops very imperfectly, or it may never develop at all. Then in this case there is nothing but the motor coordination to preserve the normal relative directions of the eyes, and anything which disturbs the balance of these coordinations will cause a permanent squint. Thus the essential cause of squint is a defect of the fusion faculty. In the presence of this fundamental cause the eyes are in a state of unstable equilibrium, ready to squint either inward or outward on slight provocation." It would seem then that the eyes would easily squint if there was not that something called fusion to hold them in line and prevent it.

Duane says, "It seems that the lack of ability to perform fusion in these cases is not so much the cause of squint as the result of it. Dr. D. D. V. Stuart, Jr., of Georgetown University, objects to the fusion theory on the ground that it assumes the existence of a special fusion faculty a "fusion center". He claims, first, that true fusion of the optical images of objects seen with both eyes does not take place, otherwise there would be no such thing as stereoscopic vision. We may for convenience, speak of two superimposed images, seen from slightly different angles, as fused, but of course they are not. Second, that we have a constant diplopia for objects within the field of vision, but not directly focused on, and that we habitually disregard this, just as a squinter learns to ignore the image seen with the deviating eye. He feels that a convergence center, allowing the two eyes to bring a single object into range with the point of greatest visual acuity of each retina is adequate. Irritative lesions of this center would account for non-paralytic, convergent squint, and destructive lesions for divergent cases. He further states that "concomitant squint develops in children after three years of age and after they have enjoyed binocular vision."

Wilkinson regards squint as a want of harmony, in proper unity or coordination of the stimuli or retinal reflexes, through the convergence and ac-

commodation centers, for proper placing of the macular images. It may be a fault in receiving the image, that is in the retinae, in transmitting the stimulus to the cerebral centers or receiving the stimuli and in turn transmitting them into the proper motor stimuli.

This brings us up to the fourth theory of the cause of squint, namely, "The Nervous Lesion", presented by Wilkinson. He says it is not original with him but he favors the theory as an aid in determining the etiology.

This theory has two phases.

1. Pathologic nervous lesion. (Paralytic).
2. Functional nervous manifestations.

First: R. I. Floyd is much impressed with the number of permanent squint cases he has found with pathologic lesions. He says, "It is our belief that there is a pathologic cause for strabismus and that it is not a nervous complex". He suggests more thorough study, the taking of fields, accurate measurements of deviation, neurological assistance, etc.

Second: MacKenzie in 1855, gave a fairly definite statement of the functional nervous theory. He said, "The cause of squint should be sought elsewhere than in the retina, that is to say, in the brain and in the nerves and organs which preside over the association of the acts of the muscles of the eyes".

Parinaud defines squint as a fault of the development of the apparatus of binocular vision, bearing at the same time the motor part and the sensory part of the apparatus. He has noted the fact that convergent squint is at first characterized by an excess innervation; the cause of the squint is not in the surroundings of the eye, but in the brain. If one observes this squint at the age of twenty, it is entirely changed. "The excess of innervation of convergence has disappeared; it is even replaced, usually by the complete abolition of this same innervation. The deviation is maintained solely by the retraction of the periocular tissues. In spite of the similarity of symptoms it acts from a surgical point of view, as two different affections. How can one expect the same operation to produce the same effect in these two extreme cases, or in the intermediary forms? There is still evolution of squint, which modifies the immediate effects of an operation, to consider, evolution which will be different according to whether retraction of the periocular tissues exists or does not exist, or according to whether one operates on convergent or divergent squint."

Wilkinson states that: "Duane has taught us that most lateral deviations begin as an anomaly of convergence or of divergence and that having started in this way, they gradually become constant

through a secondary involvement of the originally unaffected power. Worth, on the other hand, contends that the deviation is the direct result of a defective power of fusion. It is possible that both factors enter into the production of a squint, but I believe the predominant cause to be a disfunction of the converging or diverging power. He claims it has been evident to the author for a number of years that strabismus in the very young is due in a large percentage of cases to a general nervous instability."

The fusion theory is but a minor part of the nervous theory. In fact the accommodation theory is comprised in this theory when it is viewed as an excess of innervation of convergence. Muscular anomalies, hypermetropia, the heterophorias, or even a moderate amount of amblyopia, would not cause squint in the presence of a well balanced nervous system.

After thoroughly studying the foregoing causes of squint, e. g., the muscular, accommodative, fusion and nervous theories, one can, I believe readily conclude that no one theory is sufficient in itself to apply to all cases of squint, but that it is necessary to consider all phases of each theory and even these are insufficient to explain the action of some cases of crossed eyes.

The treatment of squint depends upon the findings in each individual case. If we have normal or equal vision in each eye with a marked converging or diverging squint of 40° or more, we probably have what is known as flight strabismus where there is diplopia if the two eyes are near enough in line to form images of the same object near the macula. The deviating eye turns in or sometimes out far enough to eliminate the distress of seeing double. The fixing eye may be one eye entirely, or alternate right or left, usually one or the other eye in all cases at least predominates in fixing while the other deviates. This condition has a starting point when the deviation is but slight and then is the time to start treatment. The first thing to do is to determine as accurately as possible the error of refraction and prescribe lenses to fit, if the error is very great. The case should be observed and the deviating eye trained to fixate, even if it should require covering the good eye for six weeks at a time.

In early cases, say one to three years of age, it is difficult to determine the exact visual acuity, but to guard against amblyopia exanopsia, it is necessary to start training as early as the squint is recognized to be definitely developing. Many children or infants will show an occasional squint or even quite a definite deviation of one eye which will correct itself as the general health improves and the child grows, even if one eye is amblyopic

and remains so, for we have all examined eyes with unilateral amblyopia, or a central congenital scotoma in which the eyes were straight.

How much danger there is of amblyopia exanopsia is not clearly understood, but it is for us as oculists to determine this point. This is best done by first placing over the good eye a very snug eye pad with a bandage, which is kept on constantly from four to six weeks, and the acuity of vision as well as the ability to fixate observed from time to time. Fixation and visual acuity should and usually does show marked improvement in six weeks, which is diagnostic of amblyopia without pathology. If no improvement of vision in the amblyopic eye is noticeable, and the power of central fixation has not been secured, it is of little benefit to continue longer and in these cases one can only expect a cosmetic result.

As soon as the visual acuity has been brought up to 50 per cent, the use of atropine in the good eye can be substituted for the occluding bandage, providing the vision in the good eye which is atropinized does not too far exceed that of the squinting eye. Dr. Wilkinson feels that such a treatment will develop central fixation and better vision in a large percentage of cases.

If the squint still persists it is evident that more training and education of the two eyes is necessary, that is the development of the macula, ocular reflexes to the extra ocular muscles.

This is brought about by orthoptic training and is recommended at the earliest possible age, say three to five years, depending upon the child's behavior of course, for after six to seven years of age little progress can be made in fusion training according to Worth and Wilkinson. No set of eyes can be set straight and kept straight without binocular vision or fusion if there is a tendency to squint. This faculty innate in man is very important especially in the consideration of squint, and Worth recognized varying degrees in grade of this faculty which he claims should be studied as to whether it is of low grade or high grade, for it will have a direct bearing upon the prognosis of the case, and the results expected.

One of the best methods of fusion training is by the Wells stereoscope or any other stereoscope you may have learned to operate well. Time does not permit of any detail discussion of methods or surgical treatment but will only say that surgery of the ocular muscles must always be kept in mind, and Wells "warns against delaying operative procedure, and recommends advancement in young children in whom no decrease of the degree of squint is shown within a few months, and in those cases in which the deviation is so great as to preclude the possibility of orthoptic

training being a success". After surgery is done, orthoptic training should be started as early as practicable, say two to five days.

If squint is present with unilateral pathological amblyopia surgery will be of benefit only for cosmetic purposes.

CONCLUSION

In conclusion, we have amblyopia without strabismus as well as with strabismus, and on the other hand we have strabismus without amblyopia as well as with amblyopia. The discussion of the etiology leads us to realize that we should study our squint cases with the view in mind of educating and training the normal functions of the retinal reflexes, namely by proper fitting lenses if needed, the forced use of the deviating eye by covering the fixating eye, and in some cases the use of atropine in the good eye, orthoptic training of some kind, and surgery of the extraocular muscles to assist in approximating the eyes for orthoptic training. First of all, in all cases of strabismus, determine whether it is possible to develop the normal functions of the eyes thus preventing the chances of amblyopia exanopsia.

DISCUSSION

DR. F. W. DEAN, Council Bluffs—I must congratulate Dr. McCoy upon the way he has given us the essentials of the theories and treatment of strabismus in the past. I thoroughly agree with Dr. McCoy in his belief that no one of the four theories accounts wholly for the cause of squint. It seems to me that some of the arguments used by authors to prove their theories are not at all convincing, for example—Worth, who has I think, given us perhaps the most concise and logical book on muscle physiology, says that Donders' theory, that strabismus is caused by an association of the muscles of accommodation and convergence is not correct, because one sees at least a dozen hypermetropes who do not squint for one who does. That line of reasoning would permit one to say that arthritis is not caused by focal infection from diseased tonsils because one sees at least a dozen having diseased tonsils who do not have arthritis for one who does. When the causes of strabismus given in the several theories have been worked out by men of such high standing in our profession, it is likely there is a considerable amount of truth in each of the theories. As long as we cannot prevent strabismus by breeding or feeding and knowing that as long as the human race reproduces we are going to have cases of squint, it would be wise to cease trying to find one single cause for all cases and use what is valuable in all theories to help correct defects when they appear. That which will do more than any one thing to bring about better results in the treatment of strabismus is to educate the laity, and I am sorry to say the medical profession sadly needs the same education, that it is essential to good results that treatment should begin as soon as possible after the deviation of the eye becomes apparent. To wait in hopes that the patient will outgrow the trouble is disastrous. We should keep in mind that the younger the

patient, the more rapidly the eye becomes amblyopic from disuse. There are certain steps to be taken in the treatment of strabismus and I have worked out a procedure to follow regardless of what is the primary cause of the squint and which are only contributory causes. First correct fully any error of refraction. If the squint is relieved by the use of glasses we may be sure the fusion sense is normal. This may be all that is necessary, though if after wearing the glasses for a year or so the eyes still deviate when the glasses are removed, a muscle shortening as an aid to insure parallelism is advisable. If the use of glasses does not correct the deviation, it is likely that the fusion sense is absent or weak or the muscles are poorly enervated. In either case a muscle shortening should be done. Whether the eye is adducted or abducted I would do a shortening if necessary of a muscle in each eye rather than a tenotomy with or without a shortening. I prefer to aid a muscle rather than to cripple its opponent. After the refraction is corrected and the eyes are aligned so that the picture falls near the macula of each eye, the education of a weak fusion sense is much easier and this is the time to attempt it. No amount of training will develop a fusion sense if it is entirely absent. In case the patient is devoid of fusion sense the strabismus is likely to be alternating. The correction of the errors of refraction and establishing a parallelism of the eyes is about all that can be accomplished. It is impossible to handle all cases by the same rule, but where it can be done the above is a very satisfactory procedure.

DR. W. F. BOILER, Iowa City—I have at hand no particular statistics. About a week ago I had a patient who was operated when about six years of age; he had in one eye a vision of 20/30 and the other eye 20/15, with approximate corrections; he had binocular and single vision. At the present time he is a student at the Iowa State Teachers College at Cedar Falls and having no difficulty. I see him regularly about once every two years and check his eyes. I recall four or five youngsters within the last five years, each have been operated before the ages of five or six and all have straight eyes; none developed strabismus. So far as that is concerned, early operations are quite successful. With congenital cataracts and strabismus, the burden of education falls on someone else. If the parents are interested enough to work for three or four years without any marked results appearing, good results will be obtained. But, if the parents expect your operation and glasses to do it all, you will not get such good results.

DR. JESSE B. NAFTZGER, Sioux City—What vision do you get after a child has grown up in such cases? A few days ago I had the opportunity of knowing a young man who had a congenital cataract. He is now twenty-seven years old, went to college and is now teaching in the public schools of Iowa. What would such a case show?

DR. MCCOY—I feel we should never give a case up as hopeless until we have tried a thorough course of training, for I believe that the cases that can not be improved in the way of developing vision, fusion and fixation are rare. Each case of strabismus is an individual case. For example, we have a patient with one amblyopic eye and the other eye straight, and on the other hand we have normal vision in each eye; and yet we have a squint. The re-

sponsible oculist must make a study of the case. Here is an instrument, the stereoscope, which does very good work, if you work with it and the patient works with you. I had a patient, a girl about seventeen, who has vision in the poor eye of 20/200 and vision of 20/20 in the good eye; the poor eye developed vision of 20/100 upon wearing glasses, but no improvement in the squint; she had not recognized double vision. Working with the instrument, she developed double vision and fusion. I checked her over yesterday and she had esophoria of 20 degrees. We were able to reduce and hold single vision to 0 degrees, but soon tired, which proves the fact that you must not over-do. It only means you must train a little bit at a time and soon the patient knows how much they can do. It is noted that people have various degrees of fusion, high, low and absent, but those who fall in the category of absence of fusion are rather rare. In correcting such condition, I think one should start early, say from the age of one to three, and if necessary do some form of operation to assist getting the eyes in line for stereoptic training.

CONGENITAL CATARACTS AND AMBLYOPIA*

W. F. BOILER, M.D., Iowa City

The consideration of cataracts of a congenital origin as treated in this paper includes only that type of cataract which is capable of obstructing the vision to such an extent that useful vision is not secured. Since it is the purpose of the chairman to consider cataract from the standpoint of a possible amblyopia and its well-known train of results, this paper will have little to say about diagnosis and treatment, but rather to consider the conditions in its analogy to strabismus. It should be further understood that other conditions of the eye that interfere with useful vision is not to be considered in this paper. Choroiditis, retinitis, optic atrophy, etc., are not considered. It is taken for granted that the only pathology that is present is that of a lens which is opaque or at least has enough opacities to interfere with the transmission of light to the macula in a fairly normal way. Most of these conditions involve both eyes. Occasionally we find a congenital opacity of the lens involving one eye only and the other eye having an apparently clear normal lens. Duane,¹ speaks of some of the results of eyes of this character. He says "Amblyopia from non-use occurs when there has been present in earlier childhood an obstacle to vision which makes the formation of sharp images upon the retina impossible. Such obstacles include opacities either congenital or acquired early in life situated in the cornea, lens, or region of the

pupil such as pupillary membrane, etc. A similar amblyopia from disuse occurs in eyes affected with high uncorrected refractive errors, especially high astigmatism and particularly in the more ametropic eye in anisometropia." He further speaks as follows: "Amblyopia also develops, in an eye which has squinted since childhood, because in this case the perception of the retinal images in this eye is suppressed, and the eye is thus purposely excluded from participation in the act of vision. In all of these cases, the retina, owing to lack of exercise, fails to attain to the delicacy of function which belongs to normal eyes, or the functional capacity which has been acquired is lost; but absolute blindness never occurs. If the condition causing the trouble is removed in childhood, the amblyopia may then be relieved by persistently exercising the vision in the amblyopia eye. This is especially true of squint. Treatment is most efficacious if begun before the age of five but may give excellent results if undertaken two or three years later. If left untreated until adolescent or adult life, the amblyopia is generally not relieved, even though the cause of the visual disturbance is removed by operation. In this paragraph then we have the nucleus of the whole situation and that is to reduce the eye to a practical seeing organ and then educate it.

Concerning the embryology of the eye, particularly of the lens, Mann² states this. The situation of the lens plate or thickening can be seen in embryos of four millimeters. It can be placed from the beginning, since it corresponds to that portion of the surface ectoderm which is primarily in direct contact with the neural ectoderm of the optic outgrowth. The lens plate can be seen in embryos of 4.5 millimeters. There is experimental evidence to show that the lens plate represents a reaction on the part of the surface ectoderm to a stimulus supplied by the contact of the optic vesicle and is not in any other sense a purely local development. Further, by the same author,³ speaking of congenital abnormalities, she says: The study of the development of the lens would naturally appear to be of value in the elucidation of congenital abnormalities of this organ, but as a matter of fact, it does not throw much light on the subject. This is because, in the case of the lens, the commonest abnormality met with is some form of opacity, and as has just been pointed out, the quality of opacity is not found in any normal stage of development. Congenital opacities, therefore, must be looked on as pure aberrations, not arrests of development, and so far no certain cause can be found for them. The most that can be said with regard to their production is that it is possible from their situation to place fairly accurately the time at which the lens

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fibres concerned were formed, but whether the opacity arose at the same time or occurred as a subsequent degeneration, it is impossible to say.

Fuchs,⁴ states of congenital cataracts as follows. The cause of this is either a disturbance of development or an intra-uterine inflammation of the eye. Both the stationary partial cataracts, particularly anterior and posterior polar cataract, and the progressive forms of cataract may be congenital. Congenital cataracts are usually bilateral and often inherited. Heredity, however, makes its influence felt in non-congenital cataracts also, and, in fact, even in senile cataract; there are families, many of whose members become blind from senile cataract, and that, too, for the most part at an uncommonly early age. It is only in exceptional cases that congenital cataracts are discovered immediately after birth, the rule being that they are not made out until the child is some weeks or months old; for newborn children have very narrow pupils, and moreover, because they sleep so much, keep their eyes shut most of the time, so that no notice is taken of the fact that their pupils are not black. Then, too, as such young children do not fix their eyes steadily upon objects, the fact that they do not see is not obvious. Partial congenital cataracts, if they do not cause any notable impairment of sight, are often not noticed until the patient is of quite a mature age, or perhaps are never discovered at all. Many congenital cataracts are complicated, as can be seen from the changes found at the same time in the iris, especially posterior synechiae. They are, hence, the result of a fetal inflammation of the uvea. The formation of the cataract must in many cases be dated pretty far back in intra-uterine life, since children sometimes come into the world with cataracts that have already become shriveled. Congenital cataract is quite a frequent condition. Of 3,300 cases of partial or complete blindness in children investigated by Harman, 284 were due to congenital anomalies of the lens.

The result of lenticular opacities that are large enough interfere with the passage of light directly to the macula is, first, the loss of development of the function of the retina and its brain centers, in other words, amblyopia. This is further differentiated to a specific type of an amblyopia, spoken of as an amblyopia exanopsia. This is the type of amblyopia that we find in squints and as far as we are concerned, the conditions which cause the amblyopia of squints are very similar to the conditions which cause the amblyopia of congenital cataracts. In other words, there is some defect in the eye which does not allow a clear image to be produced upon the macular region.

Lohmann,⁵ speaks as follows: Amblyopia exanopsia is a condition which must be considered as a functional loss, or a suppression. Best,⁶ favors the view that there is a suppression of visual perception, and this is supported by the fact that we do not perceive the shadows of our own vessels on the retina, and the evidence that the experienced ophthalmologist or microscopist with both eyes open sees only the object which is being examined. By perimetry of the open eye, not being used for microscopy, Best successfully demonstrated a central scotoma, the other eye having its attention directed the while to the field of the microscope. According to this idea congenital amblyopia can be considered as a permanent suppression of the region of the fovea in the strife of the fields. He further quotes that in a case of congenital amblyopia in the Universitata-Augenkinik at Munich, we were able to go a step further than this lowered condition of the fovea, and show that the periphery of the amblyopic eye prevailed. When the test was made monocularly the field of the functionally active eye was larger than when the test was made binocularly, and this "defeat in the strife" affected ten degrees of the field in the functionally active eye. On the other hand, a central scotoma without any anatomical signs in an amblyopia, which was absolute for blue to a binocular perimetric examination, was relative when the amblyopic eye alone was tested.

Collins and Mayou⁷ say of congenital amblyopia: Congenital amblyopia, or congenital defect of form-sense, is due to some imperfect development of the macula in all probabilities. Mammals as a class are characterized by the absence of a fovea, the Primates being the only ones in which it is found. It is developed in association with higher forms of binocular vision, when the production of one highly sensitive spot in the retina for form-sense becomes essential. The anatomical characteristics at the fovea to which the heightened acuity of form-sense may be attributed are: (a) The close congregation together of cones. (b) The isolation of each cone to a one-nerve path. (c) The opening out of the inner layers of the retina, allowing the unimpeded access of rays of light to the cones. Probably all three factors are essential for clearness and definition in vision. An abnormally low acuity of central form-sense dating from birth, unaccompanied by any obvious ophthalmoscopic changes, may be due to the absence of any one of these characteristic features. Some eyes with congenital amblyopia and nystagmus, in association with aniridia and albinism, have been examined microscopically.⁸ In these cases there was an absence of the fovea and of the usual distinctive characteristics of the retina at the macula. When

congenital amblyopia is present in both eyes, the capacity of fixing an object with one part of the retina in preference to another is not acquired, and the condition, characterized by involuntary rapid movements of the eyeballs, termed congenital nystagmus, is developed. When congenital amblyopia is present in only one eye, the fusing of the images seen with the two eyes, for the purposes of central stereoscopic vision is of little use, and we have a condition which predisposes to the development of strabismus.

Luther C. Peter⁹ says that there are three factors that contribute to the failure to correct certain type of squint. First, the refractive error, second the presence of amblyopia exanopsia and third, a defective fusion faculty. In his experience uncorrected visual defects are fundamentally the chief cause of failure. When the refractive error is high and especially when it is unequal in the two eyes, amblyopia exanopsia is apt to follow promptly. Furthermore, uncorrectable amblyopia furnishes an insurmountable barrier to the obtaining of single binocular vision. Whether the amblyopia is congenital or acquired is deserving at least of passing notice. It seems to be the consensus of opinion that few cases are congenital. The fact that amblyopia is present early in life, in the absence of ophthalmoscopic reasons for the same, is not convincing evidence of its congenital character. On the contrary, the early appearance of unilateral squint forecasts an early and profound amblyopia exanopsia. This is especially apt to be the case if anisometropia is present. In logical sequence, the second great cause for failure lies in amblyopia exanopsia. It is not sufficient to correct high refractive errors, but measures to prevent or to correct, if present, any tendency to amblyopia are equally important. In children from five to nine years of age, amblyopia, well established, can be overcome. Causes for failure are intimately linked and interwoven. Failure to correct refractive errors, especially if high and unequal, marks the beginning of the third cause for failure, namely, inability to train a defective fusion faculty. The average potential squinter starts life with a fusion faculty equal, in most instances, to that of a normal child; but the development of amblyopia interferes with the proper education of this faculty. The third factor in failure to cure thus has its inception. Until the child is three or four years of age, the surgeon must rest content with the correction of the refractive error and orthoptic training to preserve equal or nearly equal vision acuity in the two eyes. It is not possible to obtain satisfactory information as to the state of the fusion faculty before this age. It is the third important factor, however, in the management of

squint, and should be studied at the earliest possible period in the child's life. Failure to give proper consideration to this faculty furnishes the third impasse to complete cure of convergent squint.

Let it be agreed then, that congenital cataract should be operated early and for the same reasons that the treatment for strabismus should be started early.

Moreau,¹⁰ in his thirty-eight page account of the post-operative history of a congenital cataract, operated on at eight years, the operation being a complete removal of the lense and its capsule, says the power of visual interpretation came with extreme slowness. Six weeks after the operation, he could distinguish red, blue and yellow. Eleven weeks after the operation, careful examination of the binocular visual fields with eight centimeter test objects gave the following results; red to right or left seventy degrees, up sixty degrees, down twenty-five degrees. Yellow and green to right and left and up normal, down thirty degrees. The boy's mental evolution closely followed his visual education. After a period of two months, he had reached a confused perception of space. He played ball on the floor with an orange, but on the moment of seizing it, he closed his eyes, relying on touch rather than sight. Attempts to teach him to read were only partially successful. He learned the letters and went so far as being able to spell syllables, but he failed to coordinate syllables into words or words into representation of spoken language. After being for fifteen months under the observation of Moreau and a Catholic Sister who devoted a great deal of her time to him, he returned to his home in the country. A year later, he was visited by the physician who found he had forgotten his letters. Moreau concludes that the removal of cataracts from the eyes of a patient born blind does not enable him to see the external world at once and that education is of supreme importance.

Post¹¹ quotes Fuchs' demand for early operation in cataract. He says that cataracts which are congenital or developed early in childhood should be operated on as early as possible, even at the age of a few weeks.

On the other hand, Grod reporting on the statistics of cases operated on by Hess and Hirschel at Wurzburg during fifteen years, shows that early operation causes an arrest of growth of the eye and that useful vision is obtained in a high percentage of the cases operated on later than in those of earlier years. In summary he expressed himself in favor of a late rather than an early operation.

J. E. Brown reporting on sixty-six cases in the Ohio State School for the Blind does not gather that the age of the patient at the time of the operation influences the final result, his cases ranging from childhood up to middle life.

No opinion could be found expressed in the American Encyclopedia of Ophthalmology, so far as published, on the question as to the relation of age to the final result. But as a plea for early operation, I should like to quote the following from its pages: "Discission in any of its simple forms is the safest if the most lengthy procedure for the treatment of all states of juvenile cataract before, say the age of ten."

Henry R. Swanzy says, "Treatment is more satisfactory if undertaken early in life by discission and absorption than if later in life when extraction must be resorted to".

With the exception of the report from the Wurzburg clinic, and Brown in Ohio, these reports all indicate that early operation is advisable in congenital cataract, and that the penalty of too lengthy postponement is degeneration of the retina with loss of function, but that this function may in part be restored by exercise and in this way the disadvantages of late operation may be partially overcome.

IN CONCLUSION

1. Congenital cataract which obstructs vision should be operated early.
2. As soon as the pupil will warrant, the patient should wear correcting lenses.
3. If squint still persists and patient is under five years of age, the appropriate treatment should be instituted to develop fusion faculty.

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DISCUSSION

DR. F. W. DEAN, Council Bluffs—Dr. Boiler has given us an excellent paper. He has gone over the literature and has shown that there is variety of opinion as to cause and methods of care in these cases of congenital cataract with amblyopia. This demonstrates that the problem is not by any means a simple one. Amblyopia follows congenital cataracts because they prevent a clear picture reaching the macula and so hinder the development of central fixation

and a fusion sense. In his paper Dr. Boiler excludes other ocular pathology than the congenital cataracts. In practice we must include other pathology, else we cannot know whether the removal of the lens will benefit or not. There is no rule to determine the effect on vision by the size or density of an opacity. I have seen large opacities together with useful vision and an amblyopia caused by a minute spot. For that reason I prefer waiting until the patient is old enough to wear glasses comfortably rather than to operate on an infant unless squint, nystagmus, or some such symptom develops which clearly shows that it is time to operate. A cataract on one eye only, is apt to cause squint. After the lens is removed there is still left a strong hyperopia which must be corrected and central vision established to guard against an amblyopia. When there are congenital cataracts in both eyes the vision may be very poor and yet central vision and fusion sense be well developed. To illustrate: A woman, twenty-five, with congenital cataracts in both eyes; vision equaled 20/100. After removal of lenses vision equaled 20/20 and J1 with correcting lenses. I have operated on a number of younger patients between eight and twelve who had vision of less than 20/200 and yet good central vision was already developed as was demonstrated when correcting glasses were prescribed. It would be of value to know just what is called useful vision. Were the sixty-six pupils in the Ohio State School for the Blind, referred to in the paper, blind or did they have vision just a little low for the public schools? Dr. Boiler's quotation from the American Encyclopedia of Ophthalmology says, "Discission in any of its simple forms is the safest if the most lengthy procedure for the treatment of all states of juvenile cataracts, say before the age of ten". I agree with Henry Swanzy, also quoted, that this method is more satisfactory in early life than extraction in later life. I like better than either method a procedure described by me at the meeting of the American Academy of Ophthalmology and Oto-Laryngology at Colorado Springs in 1926, Transactions of the Academy of Ophthalmology and Oto-Laryngology, 1926, page 261. The technic of my method is as follows: First atropine is used, then under either a local or general anesthesia as desired, the cornea is punctured with a needle knife about 2 m.m. from the limbus in the upper temporal quadrant, the point of the needle knife is passed through the pupil, the lens capsule freely opened and the lens tissue thoroughly incised. Care is taken not to pass the knife through the lens into the vitreous. Atropine is continued. After a few days the lens is found to be swollen, softened and broken up by the aqueous. Following another anesthesia an oblique opening is made through the cornea in location of former puncture, only large enough to admit the tip of the suction instrument. The tip is brought into contact with the lens tissue and the softened mass sucked out in one operation. The following are the conclusions given in my paper printed in the Transactions of the American Academy of Ophthalmology and Oto-Laryngology: The suction method of operation is suitable to any form of juvenile or congenital cataract; it is not necessary to keep the patient, at any age up to twenty-five years, under operative treatment longer than seven days if the lens is thoroughly incised; it is possible to suck out the lens of a man thirty-six years old at one sitting; and the results of

the suction operation for congenital and juvenile cataracts are wholly satisfactory. The embryology, pathology and appearance of congenital cataracts have been thoroughly studied. But when authors give reports of their findings and recommend a line of procedure I think they do not classify their cases closely enough as to the vision, etc., so one feels after a study of their works at a loss to know just what to do and what to expect in any certain case.

TRAUMATIC TYMPANIC RUPTURE*

C. E. BRODERICK, M.D., Cherokee

Traumatic tympanic rupture is of fairly common occurrence in civil life and much more common in war times. They may be divided into two classes according to their etiology:

1. Those due to direct violence.
2. Those due to indirect violence.

Those due to direct violence are usually caused by foreign bodies in the external meatus or rather the attempts to remove the same by obliging members of the patient's family. This type occurs most frequently in children. More rarely the drum is directly injured by a stab wound, gunshot wound or falling against a sharp object which penetrated the canal.

Those due to indirect violence may have a widespread etiology embracing everything from a rather violent kiss to concussion from high explosives. Blows on the head, with or without, associated skull fracture are a prolific cause of this type of rupture.

It is well to stress here that in nearly all traumatic ruptures of the tympanum that the injury to the drum itself is usually of small consequence as compared to the complications which may arise or the injuries to the deeper ear structures which usually accompany it. These accompanying injuries may lie in the internal ear, middle ear, auditory nerves or even the cerebral centers. The signs and symptoms of these deeper injuries will mask or modify those due to the actual drum injury. They are also of far greater importance to us and the patient than the injury to the tympanic membrane. It is a common occurrence for the otologist to observe patients with a large, old perforation of the drum and apparently normal hearing. Also we meet many showing old scars of the drum and giving a history of probable tympanic rupture and no apparent loss of hearing. I say apparent because this is not always true and applies only to the patient's statement that he has no trouble in hearing.

It is difficult to get a true clinical picture of a simple uncomplicated traumatic rupture due to direct violence as there is, even in the most simple cases usually an accompanying injury to the middle ear. The following is a history of as nearly an uncomplicated case as I can find among my records.

Mr. J. S., age twenty-one, came in with a history of having fallen against a tall weed while working in the field and stated that a branch of the weed had penetrated his ear canal on the right side. He stated that he immediately felt excruciating pain in the ear and such a severe vertigo that he had to be helped to the house. He vomited several times and was forced to lie down for about an hour before they could bring him to town. There was no bleeding from the ear. He still complained of severe pain in the ear which was made worse by manipulating the auricle. On examination, the drum showed a large irregular wound in its posterior half and there were a few drops of blood on the floor of the canal. This was wiped away and showed no injury to the canal wall. The vessels about the perforation were injected and minute hemorrhages were also present in this vicinity. There was marked impairment of air conduction for both the high and low tones. The bone conduction was normal. The ear was well cleaned out with an alcohol-boric acid solution and several drops of 20 per cent cocaine were instilled. It was then packed with sterile gauze saturated in protargol. The following day the vertigo had stopped completely and the air conduction was much improved. The patient was lost sight of for over a month when he consulted me for some other condition. At this time the drum had healed although a large scar was evident. Air and bone conduction were normal for both high and low tones and the patient stated that he had no inconvenience from the ear after a few days.

The most surprising thing about this case was the fact the external canal had not even been scratched at the time of injury, a result which we do not always attain ourselves when making a paracentesis.

In the more frequent cases of primary perforation where the drum has been ruptured in attempts to remove foreign bodies the accompanying injury to the external canal and middle ear makes a more complicated picture. Very few of these cases escape infection. Even with infection the immediate results as regards hearing are good although we meet with many of these cases in later life which have developed progressive deafness and undoubtedly the original injury is a strong etiological factor. Of course, the important thing in these cases is to combat infection. Even with strict aseptic precautions a large majority of them develop a purulent discharge and anything from a mastoid to a brain abscess may follow.

Traumatic perforations due to indirect violence is usually, in civil life, the result of a basal skull

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fracture although cases have occurred from a heavy blow in the region of the ear or even on the vertex of the skull. In war times the so-called concussion rupture, caused by violent displacement of the atmosphere, is the type most frequently met with. It has been estimated that the atmospheric pressure on the drum must be doubled before the membrane ruptures. This applies only to normal drums as ones weakened by scars rupture at much lower pressures than this. Here again the accompanying injuries monopolize the clinical picture and a simple, uncomplicated rupture is rare indeed.

It is not in the scope of this paper to go into the various theories regarding the anatomical basis of these concussion deafnesses of the ear, such as hemorrhages into the endo-lymph and nerve endings or degeneration of Corti's organ. I say theories because, as W. Lange says in his excellent review of cases observed in the German army during the World War "the author believes that the human ear as presented for examination post-mortem cannot be used in judging these conditions, because the changes which occur shortly before or after death obliterate and cover fresh pathological changes limited to the nerve endings, ganglions and nerves".

In these concussion ruptures the prognosis must be very guarded. Even a concussion injury without rupture should have a guarded prognosis as a deeper injury may exist with an intact and apparently healthy tympanic membrane. In fact, one authority finds in an investigation of a large number of war cases "that this type forms a large percentage of the worst and most persistent cases".

Again, in these concussion ruptures, we have the high percentage of infections. J. Gordon Wilson finds that in a series of 383 of this type, only 82 escaped suppuration in the middle ear. This is no reflection on the otologist as he often does not see these cases until hours or days after the injury.

The prognosis in these concussion ruptures depends, of course on the accompanying injuries and complications. A high percentage of these cases which apparently make a perfect recovery will be found to show some impairment of hearing when tested with the forks.

In civil life these concussion ruptures are usually produced by the explosion of dynamite, air compressors, gas tanks, etc. I have in mind one such case:

Carl C., age thirty, while inflating a spare tire on his car it slipped off the rim and exploded. He stated that the full force of the blast struck him just behind the right temple and was forcible enough to knock him down. He complained of numbness over the entire right side of his head, nausea and vertigo. On examination nystagmus

was not present. There was a large perforation of the tympanic membrane beginning in the lower anterior quadrant and extending up well into Shrapnell's membrane. There was slight bleeding from the middle ear. Air conduction was markedly impaired for both high and low tones and bone conduction was slightly impaired for them. The ear was cleaned out and tamponed with gauze dipped in protargol and he was put to bed with an ice pack to the injured ear. The vertigo lasted several days and then disappeared but was replaced with an annoying tinnitus. Suppuration did not take place. The perforation healed in about six weeks time but the tinnitus persisted. It was treated by massaging the drum and inflating the middle ear with the eustachian catheter but without results. About one year later patient was examined again. At this examination there was no impairment of bone conduction to the forks but air conduction was slightly impaired to all tones. Patient was not aware of any difficulty of hearing. The tinnitus still persisted but was much less noticeable to the patient. Here we have a case where the persistent after effects were undoubtedly due to some damage to the deeper ear structures.

I do not agree with Lionel Colledge when he states that primary rupture of the tympanum, as such, is a much more serious injury than is commonly supposed. He does not furnish statistics to substantiate this and it has not been my experience in my more limited practice.

CONCLUSIONS

1. Uncomplicated rupture of the tympanum is a rare occurrence; either in its primary or secondary form.

2. Prevention of infection should be our first thought in both simple and complicated cases. Simple aseptic precautions and the minimum of manipulation should be our aim in the early stages of these cases.

3. Prognosis should be guarded in all cases because of the usually associated injuries to deeper structures. Prognosis is usually good in the simple, healing and restitution of function taking place in about four weeks when there is no suppuration. An intact drum with impaired hearing has a bad prognosis.

4. It is essential in all head injuries to examine the ears and also to inquire as to the hearing before the accident.

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DISCUSSION

DR. HAL A. CHILDS, Creston—I feel with Dr. Broderick that uncomplicated rupture of the tympanum is of rare occurrence, and because of the anatomy of the middle ear and its proximity to the brain, lateral sinus, facial nerve, and the inner ear, infection of the tympanic cavity is fraught with many complications and dangers. In a patient coming under observation soon after an injury and without serious hemorrhage, the chief requirements are to remove the accumulated exudation from the canal without disturbing the perforation. At the same time the canal walls can be gently wiped with alcohol boric solution, as it is important to prevent if possible the access of infection into the middle ear through the tear in the drum membrane. A wick of gauze placed in the outer orifice forms a most available protection against outside infection, and instillations or irrigation do positive harm during this stage. In a case which came under my observation some time ago, Mr. X, age sixty-seven, came in with a history of having had a broken blade of corn stalk penetrate the canal on the left side, which perforated the drum. This was followed by severe pain in the ear, with very little bleeding. The patient went to the house and his wife put sweet cream in his ear. This did not relieve the pain so they warmed some sweet cream, and put more in his ear. It was not until forty-eight hours after injury that patient came to my office, and then at the suggestion of a druggist, where he had gone to secure some ear drops for the pain, he was referred to me. Needless to say the results which followed, an acute suppuration of the middle ear which persisted for some three weeks, and finally healed with little or no inconvenience from the ear and that the hearing was about as good as before. I believe that we all see many such cases. However I feel that Dr. Broderick in his splendid paper has covered the field most satisfactorily. I do feel however the initial handling of these cases is most important due to the complications that may and do arise.

THE EASTMAN DENTAL CLINIC IN ROME

In order to promote health and establish a higher standard in dental service in Italy, George Eastman of Rochester, New York, has recently announced a gift of \$1,000,000 to establish a dental dispensary in the city of Rome. The supervision of the dispensary is to remain in his hands for a period of two years after its formal opening. He further binds the Italian government to a strict program of adequate maintenance so long as the institution is needed by the city.

The director is to be appointed by the Italian government. This appointment, however, must be made with the donor's approval, and the appointee must spend at least two months in the United States in preparatory study and training.

It is of interest to note that this is the second foreign dental clinic to be established by Mr. Eastman, the earlier one being established in London some four or five years ago with an initial donation of \$1,500,000.

CASE REPORT

FIBROMA OF THE KIDNEY

GEORGE H. STEINLE, M.D., Burlington

The literature is spotted with reports of fibromata occurring in the uro-genital tract and it is not with the intention of reporting anything new or unusual that I submit this. However, this renal tumor is large, singular, and has developed in the upper pole of the kidney. The history, relative to onset, the symptom-complex, and the diagnostic features are interesting, and I think, worthy of some consideration.

The individual in question was a male subject twenty-eight years of age who had always enjoyed good health except for a siege coincident with a ruptured suppurative appendix two years previous. However, recovery from this did not carry any complications and his health remained good until six weeks before admission to the hospital. At this time, he complained of some pain in the back; particularly, in the left lumbar region for which he consulted a physician who reported the findings negative including a urinalysis. He continued his



The catheters are apparent on both sides with that of the left showing the inward curva.ure and the acute angulation with the tip extending far out laterally.



The smooth portion at the beginning of the ruler is the tumor proper and the irregular portion to the right of it is that of renal tissue. This will give an idea of the size of the entire mass as the ruler measures 15 cm.

work for six weeks longer when he was seized with an attack of renal colic and a profuse hematuria. Upon admission to the hospital the following day, his general examination was essentially normal including a blood count, hemoglobin, and Wassermann, but his urine consisted chiefly of blood. Cystoscopic examination revealed a large organized clot in the bladder with blood streaming from the left ureteral opening. A catheter was passed up each ureter without difficulty. Blood was emitted in a steady stream from the left catheter. Normal urine and function was recorded from the right side. A radiograph showed the entire tract clear with the left catheter displaced toward the middle of the vertebral line and making an acute angle running far out laterally. Pyelography was deemed inadvisable because of the profuse hemorrhage. The accompanying reproduction of the radiograph demonstrates the course of the catheter on this side. The right catheter was normal in its course. A diagnosis of left sided renal neoplasm was made by reason of the displacement of the catheter and the accompanying hematuria with negative shadows in the tract. Nephrectomy was resorted to and the left kidney with a large tumor mass arising from the upper pole was delivered. The pathological report described the mass as kidney tissue enclosing a well circumscribed, rather soft, pinkish white mass, 10 cm. in diameter, arising in the upper pole of the kidney. The microscopic section showed the structure to be that of fibroma with much edema and chronic inflammatory infiltration in some areas and there was no evidence of malignancy in sections examined. (Dr. J. J. Moore, National Path-

ological Laboratories, Inc., Chicago.) The patient made an uneventful recovery and has left the hospital.

COMMENT

The unusual features, to my mind, consisted in the acute onset of the symptoms, the hematuria in particular, after the development of the tumor to such a large size. Large fibroma of the kidney is rather rare as they occur usually in multiple form. Without the distortion in the course of the catheter and the hematuria, a diagnosis of this kind would be otherwise very difficult to make because the history was negative for injury and disease, and the general physical findings were of no consequence. Mercy Hospital.

GIFTS TO IOWA STATE MEDICAL LIBRARY

Dr. Jeanette Dean-Throckmorton reports that three donors have recently made very marked contributions to the State Medical Library. The donors and their gifts are as follows: Dr. C. E. Ruth, Des Moines, Giant Calculus, weighing one and one-fourth pounds on removal; ninety-two books; Dr. G. C. Moorhead, Ida Grove, Spring Bleeding instrument used in Cupping (brass); Theory and Practice of Physic, Gregory, volume ii, 1829; Diseases of the Eye, Dixon, 1806; Chemistry, Dr. Hinrich, 1871; United States Pharmacopeia, 1830; Rigby's Obstetrical Memoranda, Meadows, 1872; Medical and Surgical Directory of Iowa, 1880 (six books); and Mrs. T. E. Powers, Clarinda, entire medical library of the late Dr. Powers.

In reply to the letter thanking Mrs. Powers, widow of a past president of the Iowa State Medical Society, she expressed herself in the following words:

"It has been a long time since I was as happy as your letter made me and it is a happiness that will last always. I can think of nothing as fine as to have them taken care of as you suggest. Of course it will be a gift so gladly and proudly given; I have not the power to express to you my joy and pleasure."

NEW VETERANS' BUREAU HOSPITALS

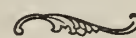
The United States Veterans' Bureau has recently placed in operation three new hospitals, one located at Tucson, Arizona, another at Portland, Oregon, and the third at Fargo, North Dakota.

The hospital at Tucson is equipped to care for 261 patients, and replaces an older institution at the same place.

The older Veterans' Hospital located at Tacoma, Washington, has been released for the use of the United States Indian Service, and will be replaced by a new hospital at Portland, Oregon, with a bed capacity of 313.

A smaller hospital located at Fargo, North Dakota, will be operated in conjunction with the regional office at that point, and will be used as a clearing house for cases requiring hospitalization in the larger institutions.

STATE HEALTH COMMISSIONER'S PAGE

*Henry Albert, M. D.*

PREVALENCE OF COMMUNICABLE DISEASES

The most prevalent communicable diseases for the past month have been scarlet fever, typhoid fever, and whooping cough.

SCARLET FEVER

An increase in the number of cases of scarlet fever from fifty-three to eighty-six is reported. Part of this increase is accounted for by cases in Fayette, Keokuk and Polk counties. The cases in Fayette county were so mild that a doctor was not called early in the outbreak. The children with the disease attended school throughout the attack and thus spread the infection. One death resulted during this outbreak.

TYPHOID FEVER

A small outbreak of this disease occurred during the month in Pocahontas. Eight cases were reported. All of those ill were members of or connected with a threshing gang working at different farms. This gang was fed the noon meal at the farm where it was at work. At one farm the woman who prepared and served the meal had had typhoid fever some time ago. Suspicion pointed to her as a carrier. An attempt to secure proof is being made. We wonder if physicians generally are urging their clientele to keep protected against typhoid fever by vaccination. Everybody should receive at least one course of vaccination against typhoid fever. Those who travel considerably should be revaccinated in three years.

VENEREAL DISEASES

Gonorrhea and syphilis seem to have changed places. Last month 162 cases of syphilis were reported as against 218 the previous month while 226 cases of gonorrhea were reported compared with 190 the month previous.

RABIES

A death from rabies in a boy was reported from Burlington. This is the second human death caused by this disease within about two months. Whenever rabies in animals is known to be in a community, all dogs should be restrained or muzzled for not less than six months. We can scarcely hope to control rabies within the state while local

authorities fail to enforce the dog licensing law and effectively restrain dogs for a sufficiently long time. Furthermore, no vicious dog—licensed or unlicensed—should be permitted to run at large.

TUBERCULOSIS BY COUNTIES

A tabulation of the number of deaths from tuberculosis in 1928, and the death rate for that disease, per 100,000 population—on a county basis, has just been completed by the Department. The tuberculosis death rate for the state as a whole, last year, was 35 per 100,000 population. The death rate for the ninety-nine counties of the state varies from zero to 294. The counties from which no death from tuberculosis was reported, was Monona, O'Brien, and Wayne. The counties which show the death rate of 100 and over are the following:

1. Cherokee, with a rate of 113.
2. Johnson, with a rate of 294.
3. Mills, with a rate of 111.

The very high figure for Johnson county can be, of course, chiefly accounted for by the location within that county of the State Tuberculosis Sanatorium. That institution has many advanced cases in the terminal stages of the disease and will, of course, always show a high death rate. The death rate for the individual counties will appear in a publication issued by the State Department of Health.

LAW ENFORCEMENT

Elsewhere in this issue will be found reports of two cases of violations of the medical practice act, corrected with the assistance of the inspector of the department.

The State Department of Health needs the support of all physicians in this as in all other divisions of its activities.

Unfortunately, our inspector is somewhat handicapped by lack of funds to secure necessary evidence in some cases. The original legislative act made provision for stenographic service and expense money. Before passage, however, the law was slightly changed and the attorney general has ruled that the law as passed, does not provide for such.

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The Cardio-Vascular System

DIGITALIS THERAPY

One of the most significant clinical benefits which has accrued from the intense research in diseases of the heart which has been in progress during the last two decades is a more complete knowledge of digitalis therapy. And since digitalis properly administered is one of the most potent of our effective drugs it may not be amiss to summarize briefly our present knowledge about it. What is now known as the digitalis action consists of a slowing of the heart beat and a final stoppage of the heart in systole if fatal doses are given. A number of drugs have this action on the heart, the principal ones are digitalis, strophanthus, and squills, but since digitalis possesses all the advantageous properties of any drugs giving the digitalis action and is free from many of the deleterious side actions of the others, digitalis is the only one that need be used as a cardiac drug. An exception to this is the rare need of a solution of crystalline strophanthus for emergency intravenous administration. The only preparations of digitalis needed in clinical medicine is the standardized leaf and the standard tincture. The official infusion is unstable, bulky and of uneven strength, hence, uncalled for, and the various proprietary preparations are expensive and are in no way superior to the official drugs.

In proper doses digitalis has the following action on the cardiac mechanism of man. (1) Stimulates

the vagus causing slower and fuller pulse. (2) Depression of the conduction in the auriculoventricular node. (3) Direct stimulation of the cardiac muscles. These therapeutic actions of the drug are obtained when about 30 per cent of the fatal dose is given. The zone between the therapeutic dose and the toxic dose is so narrow that it is necessary for the full therapeutic effect to push the drug until minor symptoms of toxicity occur. These are in the order of their usual appearance: Inversion of the T wave in the electro-cardiogram, nausea and vomiting, partial heart block, bradycardia and rarely diarrhea. In order to obtain the full benefit of the action of digitalis, large doses of the drug must be given. The average amount needed before the action appears is about .15 cat units per pound of body weight and this is equal to 0.15 c.c. of the tincture and about 13 mg. of the standardized leaf. Hence the average therapeutic dose of the official tincture for a person weighing 150 pounds would be 22.0 c.c. or over two grams of the leaf. The safest and most effective way of giving this is to give one-half of the calculated dose the first day, one-fourth the next day and one-eighth on the third day, and then continue with about two c.c. per day until slight nausea has developed or the desired therapeutic effect has been brought about. When nausea develops after the amount approximating the calculated dose has been administered, the drug should be stopped, since it is ten to one that the stomach upset is due to the drug. If nausea occurs before that time, the cause for the vomiting must be sought elsewhere and the digitalis administration must be continued on the same basis per rectum.

After a patient is once digitalized it becomes necessary to maintain the effect of the drug. This is done by the daily administration of from one and one-half to two c.c. of the tincture or from two to three grains of the leaf. This amount is necessary because the body eliminates about the amount of digitalis glucosides which is present in one c.c. of the tincture each twenty-four hours. The patient himself is usually capable of judging the amount needed, since an over dose leads to nausea. In the practice of medicine one is often confronted with the question of how to proceed to digitalize a patient who has recently been under digitalis administration so as to avoid the so-called cumulative action of the drug on the one hand and on the other to give enough for complete digitalization. It has been found that most of the digitalis has left the body on the tenth day after the last administration, yet traces of the drug have been found after twenty days, so that it is only after twenty days that one may proceed to digitalize as though the patient had never had the drug before. In a

PRESIDENT'S MESSAGE

THE YOUNG PHYSICIAN

A Responsibility and an Opportunity

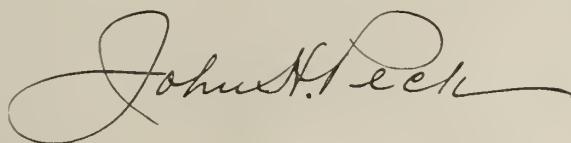
I want to ask the leaders of the profession in this state and especially officers of county societies to give a few moments consideration to a golden opportunity for enhancing the strength of our organization and to a great responsibility which we have for a small group of young men who have entered upon the practice of medicine in Iowa this summer.

Our secretary's report shows that about 90% of all eligible physicians in Iowa are affiliated with their county and state societies. More than one-fourth of our counties have a 100% membership. I am glad to know that the remaining societies are taking very definite steps to receive into membership every eligible physician. Increased numbers and income are only incidental advantages to be gained from a 100% membership. The real achievement will be in unity, strength, and a tremendously increased power for the good of the commonwealth and the betterment of our profession. Let every man who reads this do his personal part in seeing to it that every eligible non-member in his county ceases to be a non-member and takes his place shoulder to shoulder with his brothers.

Approximately one hundred of these non-members are young men who, having just completed their long and arduous period of preparation, are for the first time entering upon the practice of our great profession. The financial and spiritual resources of our society can be greatly enhanced by bringing them into membership. But that motive is trivial when compared to the real reason why these new physicians should be immediately inducted into organized medicine.

If you who read this will recall the uncertainties, the trepidations, and the bright, high hopes with which you entered upon the first months of your practice, you will surely recognize the necessity of immediately forming a lasting, beneficial contact with these new men. Get them into organized medicine at once. To do so will give them the strength, support and friendship which they need. It should make them a permanent asset to organized medicine; but also—and of immensely greater importance—it will set their feet upon the proper path.

It is quite within reason that if every newly licensed physician were at once taken into organized medicine and properly advised and guided, every single man of them would continue always to practice properly and in complete accord with his fellows. As time goes on and educational requirements and regulatory laws become stricter, the day will come when quacks can be recruited only from the ranks of otherwise qualified practitioners. Thus if we older members of the profession can fully meet our responsibility toward these young physicians, we might in another generation entirely do away with irregular practice. What nobler purpose could we have!



case where the patient has been receiving insufficient doses of the drug one can usually ascertain the amount taken and by deducting one c.c. of the tincture or one and one-half grains of the standardized leaf for excretion per day, one can roughly estimate the amount of digitalis present in the body and proceed cautiously to administer the additional amount needed. And if watch is kept for the appearance of toxic symptoms there is little danger of injuring the patient by an over dose of the drug.

Having now touched upon the digitalis action, the dose of the drug and its proper administration, there remains but a listing of the conditions in which this drug is beneficial. Auricular fibrillation, is the condition par excellence for the exhibition of the most happy effect of the drug, for here the delirious auricles exhaust the ventricles by sending showers of diverse impulses which keep the ventricles beating tumultuously and ineffectively until the myocardium is exhausted. Digitalis through its vagal action has a tendency to bring the auricle back to sanity and by its depressant action on the node, the smaller impulses are prevented from reacting the ventricle. Both of these actions give the ventricular fibers opportunity for a much needed rest. Refreshed during diastole and spurred on by the direct stimulating action of the drug, the ventricles contract forcefully emptying the heart more completely and then after complete rest, during the prolonged diastole returns once more vigorously to restore the lagging circulation. The effect upon the patient of this action is little less than miraculous. The edema disappears as by magic and the patient once more almost his normal self. In another arrhythmia—auricular flutter—digitalis acts as a specific in that it changes the flutter first to fibrillation and then back to normal rhythm. A number of careful clinical investigations have demonstrated conclusively that digitalis largely on account of its stimulating influence on the cardiac muscle is of distinct benefit in types of congestive failures associated with a normal rhythm. Lastly the question of the administration of digitalis to prevent cardiac failure in infectious diseases appears to have been settled in this way: The heart usually fails in such infections as pneumonia, from the poisonous effect of the bacterial proteins—against such failure the drug is inert. But in a certain percentage, estimated by various writers by as much as 10 per cent of these infections, auricular fibrillation occurs, and in such cases digitalis exerts its characteristic beneficial action.

Those interested further in the subject are referred to Cushny, A. R., *Digitalis*, J. Exp. Med., 1897, 2, 234; Sollman, T., *Manual of Pharmacology*, W. B. Saunders,

1927, and the excellent review of digitalis therapy by Robinson, G. C., White, Eggleston, and Hatcher, A. M. A. Committee, *Digitalis*.

A NEWER TREATMENT IN DIABETES

"There is no reason why one should die from diabetes."—Sansum.¹

During the past ten years, great interest has been developed in diabetes, largely stimulated by the discovery of insulin as the deficiency substance responsible for the symptoms observed in this disease. Prior to this discovery, the management of the disease was entirely along the lines of diet restriction. In fact, with severe diabetes, it was considered as completely incapacitating, since a severe diabetic could not be given a sufficiently liberal diet to permit activity. In the early days of insulin therapy, the dietetic management of the diabetic resembled in every respect that previously employed, with the exception, possibly, that glycosuria and hyperglycemia were more completely controlled by the use of the drug.

Sansum and his associates at the Potter Metabolic Clinic some three years ago advised the use of a more liberal diet in diabetes, advancing the theory that the unfavorable complications of the disease (such as arterial sclerosis, arterial hypertension, organic heart disease, kidney damage, and visual impairments) were the result, not of the disease, but of the dietary deficiencies. In this country this program was given serious consideration in such clinics as that of Jocelyn in Boston, Geyelin of New York, Smith of Los Angeles, Holcomb of Portland, and Richardson at the University of Pennsylvania. In Europe, Adlersberg and Porges of the Vienna Clinic adopted the program with some modification, and have had an exceptional opportunity because of the rich clinical material available at the Clinic of observing the usefulness of the procedure.

Sansum¹ and his associates feel that they have now demonstrated the superiority of the high carbohydrate diet. They state that individuals on this diet are more quickly rendered sugar free, and suffer fewer reactions, either from the ketone bodies or excessive insulin. They are more quickly returned to useful occupations, since the complete diet increases their feeling of fitness and actually provides the "fuel" necessary for labor. Their experiments would indicate that the degenerative diseases so frequent as a late manifestation of diabetes are probably due to the acid ash preponderance in the ordinary limited diet advised for dia-

1. Sansum, W. D.; Gray, P. A., and Bowden, Ruth: "The Treatment of Diabetes Mellitus", 1929, Harper and Bros. (See full announcement under "Books Reviewed", page 512.)

betics. Their diet favors a neutral, or possibly slightly alkaline ash reaction, which, they believe, is antagonistic to degenerative vascular change. They stress the importance of the full high carbohydrate diet in growing children, which, while it often entails the regular use of insulin, more than compensates for this trouble in stimulating normal healthy body growth and in permitting the vigorous play accorded other children. Finally, the results suggest that the low fat, high carbohydrate diet increases the patient's ability to metabolize sugar. Adlersberg and Porges have shown a constant improvement in sugar tolerance by the use of diets rich in carbohydrates, but low in fats. Jocelyn, in the 1928 edition of his book on the "Treatment of Diabetes Mellitus" reports entirely favorably on the high carbohydrate, low fat diet. While it would appear that he has not gone so far as Dr. Sansum is utilizing the normal—that is, unlimited—diet proposed by Dr. Sansum, he has accepted the principal of such a diet and has been actively employing this principal in his own clinic for a number of years.

If the work reported by Dr. Sansum stands the test of time and proves as useful in the hands of others as in his hands, it would seem that a forward step has been made in the handling of this disease, since it accomplishes the aim of all diabetic regimes in rendering the patient symptom-free, in returning him to a useful occupation, and in prolonging his life. It seems, however, to go one step farther in the fact that it offers rest to the overworked pancreas, and favors an increase in pancreatic efficiency, manifesting itself in an increased sugar tolerance indicative of increased Islander activity. Such a forward step is obviously more than palliative and must be considered as a definite advance in the curative treatment of this disease.

KAHN VERSUS WASSERMANN

Serologists have, for a number of years, known that practically all alcoholic extracts of animal tissue, regardless of their mode of preparation, or the type of tissue employed, when properly mixed with a syphilitic sera will cause the production of a precipitate following a suitable period of incubation. Numerous experiments have been performed by various workers in an effort to produce a reliable test for syphilis which would employ this principle. In each instance, it has been hoped that such a method would so simplify the serum diagnosis of syphilis that the procedure would be removed from the hands of the skilled technician and placed at the disposal of every physician.

In 1922, Dr. R. L. Kahn, immunologist of the Michigan Department of Health, announced a precipitation test which has since borne his name. This test, he believed, because of its simplicity, could be employed by the technician without special serological training, and for this reason hoped for a very wide use of the method. In 1925 the method was very fully discussed in a volume entitled "Serum Diagnosis of Syphilis by Precipitation". During the past four or five years, a considerable experience has been collected by many workers in different laboratories so that today it has become recognized as a standard procedure in the serology of syphilis.

In a recent discussion of the method as compared with the standard Wassermann reaction, Colonel C. F. Craig¹ of the Medical Corps of the United States Army has advocated the parallel use of the two methods in all cases, especially those of doubtful diagnosis. He has pointed out that neither the Wassermann nor the Kahn test should be considered as 100 per cent efficient. He has outlined some of the conditions which will produce misleading reactions with either method. In many febrile conditions, and in some diseases other than syphilis, the Kahn test will give a much higher percentage of positive reactions than the Wassermann, and is of less practical value in this group of cases for this reason. On the other hand, the Kahn test will indicate a positive reaction much earlier in primary syphilis than will the Wassermann, a feature which is of distinct value in the early recognition of this disease. He further observes that the Kahn test will show a great percentage of positive reactions in treated and latent cases, whereas the Wassermann test, in many of these cases, would be entirely negative. Colonel Craig states as his opinion that the Kahn test is too sensitive for routine employment in a large number of apparently healthy individuals—as in the army—indicating a very definite preference for the Wassermann test.

Most well-equipped commercial and hospital laboratories are today prepared to perform either the Kahn or Wassermann test, and where such service is available, it is very worthwhile that the physician should request that the test be parallel in all sera submitted. He should, however, be prepared to interpret the results obtained in terms of clinical findings, so that misleading reactions reported from the employment of either method can be readily ruled out of consideration. Some physicians will find that the Kahn test, because of its simplicity may be performed to advantage in their own office laboratory, but we believe, at

1. American Journal of Syphilis, April, 1929.

this time, that it would be an error to rely solely upon such a procedure without the check of a Wassermann test performed in a laboratory well-equipped for this procedure. Two points in syphilology should be remembered regardless of the test employed; (1) the diagnosis of syphilis from serology alone will lead to frequent error, and (2) that in the treatment, one is treating a disease and not a laboratory reaction.

FELLOWSHIP IN ROYAL COLLEGE OF SURGEONS

In August of this year a preliminary examination for fellowship in the Royal College of Surgeons of England was conducted in Toronto University. Five of Great Britain's distinguished pathologists, physiologists, anatomists, and surgeons conducted the examination. Thirty-seven students made application for the examination, although but twenty-three reported before the committee. Of this number, nine were passed and are now qualified to take the second half of the examination in London at a later date. This is the first time in the history of the Royal College of Surgeons when this examination has been held outside of London, and was intended as an experiment to determine the feasibility of such a plan. If the Canadian venture is successful, it is proposed at a later date to hold preliminary examinations in Sidney, Australia, and to continue the examinations in Canada.

Of the twenty-three candidates who appeared for this examination, there was but one who had graduated from an American university. This one candidate was Dr. Julian Bruner, whose home is in Des Moines. Dr. Bruner is a graduate of the Rush Medical School, University of Chicago, in the class of 1927. He served his internship at the Los Angeles County General Hospital in Los Angeles. He later qualified for a fellowship in the Mayo Clinic at Rochester, Minnesota, where he is now completing his second year of residence. The Iowa medical profession is justly proud that Dr. Bruner was among the nine successful candidates and promises well to become the first American to receive a fellowship in the Royal College of Surgeons by examination under the new schedule. Dr. Bruner is the son of Dr. H. A. Minassian of Des Moines.

WILMER OPHTHALMOLOGICAL INSTITUTE

In appreciation of the professional services rendered the donor by Dr. William Holland Wilmer, professor of ophthalmology in Johns Hopkins, Mrs. Henry Breckinridge four years ago collected and gave the University \$4,000,000 to establish an infirmary for the treatment of eye conditions, to be known as the Wilmer Ophthalmological Institute. Under the terms of the gift, Dr. Wilmer was to become the director of the Institute for life. The completed building, dedicated during the month of October, is unique in that it is the first of its kind to be associated with both a medical school and a general hospital.

A DEPARTMENT OF THE HISTORY OF MEDICINE

Announcement has been made of the creation of a new department in Johns Hopkins to be known as the Department of the History of Medicine. This new department will be associated with the equally new William H. Welch Medical Library, and will be under the direct supervision of Dr. William H. Welch, that grand old master of medical history and education, whose seventy-ninth birthday was recently celebrated. This department will not only honor a worthy, brilliant, and successful professor, but will, because of this master, be a credit to a great institution.

Dr. Welch entered the faculty of Johns Hopkins in 1884 following the formal opening of the school in 1876 becoming the first professor of pathology not only in this school but in America. A descendant of physicians, he possessed a broad viewpoint in medicine which received early recognition in his appointment as first dean of The Hopkins Medical School in 1893. This same broad viewpoint made possible the Johns Hopkins School of Hygiene and Public Health, which he organized in 1918, and this new department of History of Medicine just announced. It is surprising that it has been said that "no man now living in America has exerted greater influence upon the course of medical education in this country" than has Dr. Welch?

A NEW MEDICAL JOURNAL

The first number of the new "Medical Mentor", official organ of The American Medical Editors and Authors Ass'n, has made its appearance. This Journal enters the field "to serve as a means of communication between the several units of The Medical Press and to draw together in closer union the practitioners of this specialty".

In the United States and Canada, about 500 medical editors and assistant editors are employed in producing some 200 medical journals. Several times this number are engaged in the writing of books. These jointly constitute the membership of The Association and it is for the pleasure and benefit of this group that the "Medical Mentor" has come into being.

The Journal will publish editorials and original contributions dealing with the problems of medical journalism, essays of historical interest, a "Who's Who in the Association", and a review of current medical literature and new books. As the official organ of The Association, all news of an official nature will be disseminated through this medium.

The Journal of the Iowa State Medical Society welcomes this "new comer" into the field of medical journalism.

REDUCING THE "HIGH COST" OF ILLNESS

Announcement has been made in the lay press of a serious attempt made by the physicians and surgeons of Keokuk, Iowa, to reduce the cost of hospitalization and medical fees in that city. The Graham Hospital and St.

Joseph's Hospital together have set aside ten rooms for their experiment. Under the Julius Rosenwald foundation, funds are available for retiring 50 per cent of the deficit accruing from the operation of the rooms set aside for the project, which will assure the plan of a careful trial.

Under this plan, it is proposed that persons of moderate income may enter the hospital, securing bed service, special nursing service, and adequate medical service at about one-half the present rate. The entire bill incurred will be financed so that it may be retired on weekly installments. In order, however, to secure such service, the patient on entering the institution must sign a contract guaranteeing the payment of the bill incurred, and authorizing his employer, present or future, to deduct from his wages and pay the institution the amount indicated. It is felt that such a plan will result in but few losses to the institutions and physicians rendering the service, a fact which permits the marked reduction in fees proposed.

The Iowa profession will watch with considerable interest the operation of this plan, since it is a most radical departure both for the hospital and the physician.

PHYSICIANS ON PROGRAM OF SOCIAL WORK CONFERENCE

In the course of the two day program of the Annual Conference of Iowa Social Workers held in Marshalltown, October 20 and 21, six physicians contributed to the discussions.

Monday afternoon was devoted to the subject of Mental Hygiene, and Dr. George Donahoe, superintendent of the State Hospital, Cherokee, was chairman. Dr. E. E. Harris, Grinnell, secretary of Poweshiek County Medical Society, spoke upon The Grinnell Psychiatric Clinic, and Dr. Andrew H. Woods, director Psychopathic Hospital, State University of Iowa, Iowa City, presented, Man's Attitude Toward Life is Fixed in Childhood.

The next morning Dr. T. U. McManus, Waterloo, as chairman of the newly created Committee on Medical Economics read a paper, Treatment in Mass, which invoked a lively discussion regarding the relationship of physicians and social workers in the care of the indigent sick.

Dr. Howard A. Lanpher, Des Moines, director, Division of Preventable Diseases, presided at the noon luncheon at which President John H. Peck was the principal speaker.

The presence of so large a number of physicians on the program, as well as the enlightening and helpful discussion of medico-social topics, is further evidence of the cooperation that is developing between the medical profession and those engaged in social work in Iowa.

ANOTHER MAGNETIC HEALER STOPPED

Herman B. Carlson, law enforcement inspector of the State Health Department, reports that O. E. Fiester, who has been located in Oelwein, Iowa, for the past two years, having come here from Minnesota, has been practicing medicine during this time without a license. Fiester claims that he has so much electricity in his body that the current passes from him through his hands to the patient and thus

works his beneficial results. Fiester does not advertise in the daily papers, but has one patient bring another and thus forming an endless chain. Fiester does not claim to make any charge for his treatment directly, but sells each patient a piece of cotton flannel about 8 x 12 inches wrapped neatly in ordinary newspapers for which he makes a charge of \$1. He was under the erroneous impression that in order to come within the purview of the statutes relative to the practice of medicine, a direct charge for his services would have to be made. His treatment is practically the same as that of W. F. Hughey, self-styled magnetic healer of Ames, Iowa, who was recently convicted of practicing medicine without a license. Carlson reports that Fiester promised him faithfully that he would desist in the future the practice of medicine in this state without a license.

It has been the policy of the Department to be satisfied for the time being, when those guilty of minor violations promise to discontinue their unlawful practice. In case the pretender continues, the inspector secures the necessary evidence and presents the same to the grand jury for indictment. In a majority of cases where Mr. Carlson has given first warning, the offender either has discontinued his unlawful practice or left the state.

NON-MEDICAL MAN PRACTICING UNDER PRESUMED PROTECTION OF A PHYSICIAN

C. A. Pastner, a resident of Omaha, Nebraska, who has been masquerading in that state for several years as a physician and surgeon, had the audacity early in September this year, to open up an office in Shenandoah, Iowa, associating himself with H. C. Boyer, M.D., of Council Bluffs, Iowa. They had a suite of rooms over the Bauer building, and on the big window in front of the rooms was their sign, "H. C. Boyer, M.D. and C. A. Pastner, Medical Electrotherapist". The Shenandoah Sentinel gave them a big send-off, by giving them a ten inch column on their front sheet and headlines, "Dr. H. C. Boyer of Council Bluffs and Dr. C. A. Pastner, Omaha, Move Here".

Prior to September, 1929, Pastner had been itinerating to Clarinda and Shenandoah and throughout the countryside, and had a host of patients. Pastner's patients from Iowa would go to Omaha for treatment between intervals of his itinerancy. However, to be nearer his clientele, he conceived the idea of opening up a big office in Iowa, with an M.D. as a shield. Herman B. Carlson, law enforcement inspector for the State Health Department reports that his patients run into the hundreds. Pastner's method of fee payment was to get all he could down. Investigation showed that his lowest payment down was \$30 and his highest \$250.

Carlson reports that after he gave Pastner fair warning to retire from his activities here in Iowa, he still continued. Carlson secured an abundance of evidence sufficient to either bring injunction or criminal proceedings, but the state was unable to have any of its papers served as Pastner had gone from Shenandoah leaving no forwarding address.

It is rather surprising that any physician should permit himself to be associated with a man of this type.

Sioux Valley Society Meeting January 29 and 30

Interesting clinics, papers and discussions, with a banquet as a feature of the first night, will fill the two-day program of the Sioux Valley Medical Society meeting to be held January 29 and 30, according to announcements made by President Emil C. Junger of Soldier and Secretary John H. Henkin of Sioux City.

While this society includes also members from Nebraska, South Dakota, and Minnesota, its programs are of particular value and importance to the physicians of northwestern Iowa, and a considerable proportion of the big attendance at these meetings comes from Iowa. The winter meeting is



DR. EMIL C. JUNGER

being regularly held in Sioux City. Dr. John H. Henkin who has been secretary for several years is a resident of Sioux City and the present chief executive is Dr. E. C. Junger of Soldier who is also Deputy Councilor of the Monona County Society.

Special arrangements are being made for the entertainment of speakers and guests and Dr. Junger writes that an attendance of 1,000 is expected. The program arrangements are rapidly being completed, and the detailed program will appear in the Journal. For special information address the secretary, Dr. John H. Henkin, Metropolitan bldg., Sioux City.

Medical Society of the Missouri Valley

On September 26-28th, the Medical Society of the Missouri Valley held its forty-second annual meeting in Iowa City, giving the physicians of Iowa an opportunity for post-graduate instruction. This society for the past few years, has devoted itself to this particular line of work with growing evidence of success. Enthusiasm which was apparent at the Iowa City meeting bodes well for the future, and there is every reason to believe that these meetings will prove to be an outstanding stimulus to practitioners of this region.

The Iowa City session was conducted after the fashion of a post-graduate assembly with prominent speakers from the Middle West and with excellent clinical material available from the University Hospital. During the three day session, approximately 250 physicians were in attendance, and reported that they felt well repaid for their time and effort.

Next year's session will be held in Des Moines during the latter part of September, and plans are already being laid to make that meeting an even greater success. Since the meetings are planned for general practitioners, it is hoped that they will support the scheme as actively as possible. The central location of Des Moines will remove the necessity for traveling any considerable distances, and the officers are looking forward to an exceptionally fine program, and a larger attendance than usual.

The speakers at the last meeting included:

Des Moines—Doctor Fred Moore.

Omaha—Doctor John J. Keegan, Dr. A. D. Dunn, Doc-

tor Geo. E. Neuhaus, Doctor J. W. Duncan.

Kansas City, Missouri—Doctor Frank C. Neff, Doctor Thomas G. Orr, Doctor Logan Clendening.

Chicago—Doctor Chas. M. McKenna, Doctor Kellogg Speed, Doctor Darnold P. Abbott.

Minneapolis—Doctor Hilding Berglund, Doctor Elexious T. Bell.

St. Louis—Doctor E. A. Doisy, Doctor David P. Barr.

In addition, the following members of the medical faculty participated in the program: Doctor Philip C. Jeans, Doctor C. E. Van Epps, Doctor H. L. Beye, Doctor C. J. Rowan, Doctor N. G. Alcock, Doctor E. D. Plass.

The meeting was attended by approximately 175 physicians from the surrounding territory who were quite enthusiastic over the general idea, and indicated their approval of the material which was offered.

The following officers were elected for the ensuing year:

President, E. D. Plass, Iowa City, Iowa. Vice-president, J. O. Skinner, Kansas City, Missouri. Secretary-treasurer, J. D. McCarthy, Omaha, Nebraska.

Executive committee—Ralph Major, Kansas City; A. D. Dunn, Omaha.

Doctor Granville Ryan of Des Moines, a member of the executive committee, has charge of the arrangements for the 1930 meeting, and is already making plans for a most delightful session. The physicians of Iowa should keep this date in mind, and should make every effort to be present during the entire session.

SOCIETY PROCEEDINGS

AUSTIN FLINT-CEDAR VALLEY MEDICAL SOCIETY

The fall meeting of the Austin Flint-Cedar Valley Medical Society took place October 9, in Ft. Dodge. The meeting opened at ten a. m. with a talk on Spinal Anesthesia by A. D. Newbert, M.D., Fort Dodge, which was followed by an illustrated talk on The Industrial Back, R. F. Bellaire, M.D., Sioux City. The morning session closed with a paper on the Treatment of Hereditary Hypertension by D. J. Glomset, M.D., Des Moines. After the noon luncheon the meeting was resumed at 1:30. The program for the afternoon included a Review of Recent Advances in Medicine by W. A. O'Brien, M.D., pathologist from the University of Minnesota; an illustrated talk by Howard L. Beye, M.D., State University College of Medicine, on Lung Cases; a paper by Harold C. Habein, M.D., Mayo Clinic, on Medical Aspects of Patients with Urinary Obstruction; a paper by A. C. Starry, M.D., Sioux City, on Pathology of the Appendix; and a paper on Intracranial Hemorrhage of the New Born by E. E. Magee, M.D., Waterloo. The session closed with a 6:30 banquet followed by an evening entertainment.

CERRO GORDO COUNTY MEETINGS

After a vacation of three months during the hot weather, the members of Cerro Gordo County Medical Society held their regular meeting Tuesday, September 17, at 8 p. m. Following a brief business meeting, the following program was put on by members of the staff of the Park Hospital Clinic: Care of Peptic Ulcer with Report of Cases, G. M. Crabb, M.D.; Care of Strabismus, C. E. Chenoweth, M.D.; Non-Specific Treatment of Paresis, N. C. Stam, M.D.; Coronary Occlusion with Report of Case, L. R. Woodward, M.D.; Alkalosis in Pyelitis with Report of Case, M. B. Spahr, M.D.

There was a good discussion of each paper presented. The visitors present were Dr. M. J. Kenefick, Algona, Iowa, former president of the State Medical Society of Iowa; Dr. R. E. Culbertson, St. Ansgar, Iowa; Dr. G. F. Dolmage, Buffalo Center, Iowa; Dr. John O. Eiel, Osage, Iowa.

T. E. Davidson, Sec'y.

The Cerro Gordo County Medical Society held their regular meeting Tuesday, October 15, 1929, at the local Y. M. C. A. at Mason City, Iowa.

The program consisted of clinical demonstration and discussion of cases with disease of the chest and heart. Dr. John Peck from the Iowa Tuberculosis Association was with us and gave us a very splendid discussion and talk on childhood tuberculosis.

Dr. A. D. Woods of State Center examined the heart cases and gave a very interesting clinical demonstration and discussion of the cases, as well as a talk on diagnosis and prognosis of heart disease.

There was a dinner at 6:30 in the evening held at the Hanford Hotel, following which these two men put on the above program.

T. E. Davidson, Sec'y.

DES MOINES COUNTY

Tuesday, October 8, the Des Moines County Medical Society met in Burlington for a meeting in which Lee County Society members furnished the following program: Meniere's Syndrome, F. A. Priessman, M.D., Keokuk; The Abnormal Thymus Gland in the New Born, William Rankin, M.D., Keokuk.

FAYETTE COUNTY

The Fayette County Medical Society met Monday, October 7, in Fayette for their regular monthly meeting. After a six o'clock dinner a short program was presented which consisted of papers by Drs. Nicholas Schilling, New Hampton and C. C. Hall, Maynard. Several visitors were entertained, the total number at the meeting being twenty-three.

JOHNSON COUNTY

The Johnson County Medical Society met Wednesday evening, October second, at the American Legion building, for the regular monthly session. Eighty-eight members and guests were present. There were three members received by transfer from other societies, and four admitted to junior membership in the society. The society met for dinner at six as guests of Doctors Budd, Cole, J. C. Kessler, Kimball, Lee, C. I. Miller, Miltner, Netolicky, Pfohl, F. M. Smith, VanEpps, Whiteis, Grace Williams, and Mr. Neff.

Dr. J. H. Wolfe presented a very interesting case report, embodying a resume of the literature, on "Addison's Disease Complicated by Pregnancy". So far as could be learned, Dr. Wolfe's case is the twelfth case of this type reported. The patient and child are both living. The case was discussed by Dr. C. W. Baldrige, Dr. G. H. Hansman and several other members of the society.

Dean Henry S. Houghton then gave a very interesting and instructive talk on "The Systems of Ancient Chinese Medicine". He brought out that the Chinese theory of circulation of the blood antedated by several thousand years, the discovery of the circulation by Harvey. Many interesting points regarding the ancient high peak of Chinese medicine were brought out. This peak coincided approximately with the development of medicine at the time of Hippocrates. Many of the Chinese herbs, and their products which have been in use for centuries by the Chinese are being introduced into western medicine. Many more are worthy of careful laboratory study. The ancient system of Chinese medicine was on a higher level than at present.

Geo. C. Albright, Sec'y.

LINN AND JONES SOCIETIES JOINT MEETING

Members of the Jones and Linn County Medical Societies held a joint meeting in Cedar Rapids, Thursday, October 10. The speaker of the evening was Walter W. Hamburger, M.D., Chicago, Illinois, who spoke on Greater Hearts and Masked Hyperthyroidism.

LOUISA COUNTY ANNUAL MEETING

The annual meeting of the Louisa County Medical Society was held in Columbus Junction, October 11. State officers present were Dr. George B. Crow, Burlington; Dr. Channing G. Smith, Granger; Dr. C. A. Boice, Washington; and Mr. Vernon D. Blank, Des Moines. Officers elected for the coming year are: President, Dr. O. A. Kabrick, Grandview; vice-president, Dr. E. R. King, Letts, and secretary-treasurer, Dr. L. E. Weber, Wapello.

MADISON COUNTY CHEST CLINIC

The Madison County Medical Society sponsored a chest clinic which was held in Winterset Friday, October 11. The clinic was in charge of Drs. Peck and Lugnbuhl of Des Moines.

MARION-MAHASKA SOCIETIES

The Marion and Mahaska County Medical Societies met in joint session at Pella, Wednesday evening, October 9. Following an excellent supper, the following exchange program was presented by the Mahaska members. Diabetes, Dr. G. H. Clark, Oskaloosa; Lung Abscess, Dr. G. L. Venable, New Sharon; Acute Anterior Poliomyelitis, Dr. E. M. Williams, Oskaloosa.

The program was most excellent and instructive. Twenty-five members of the profession were present. Threatening weather interfered with the attendance which would have been forty or fifty under normal conditions.

C. S. Cornell, Sec'y.

MARSHALL COUNTY

The Marshall County Medical Society convened for its regular session Tuesday, October 1. Following a 6:30 fried chicken dinner at the Hotel Tallcorn, R. E. Keyser, M.D., Marshalltown, presented a paper on Tuberculous Peritonitis. L. F. Talley, M.D., Marshalltown, showed x-ray slides illustrating the paper, and A. D. Woods, M.D., State Center, reported a history of such a case. Drs. A. C. Conaway and R. S. Grossman were appointed as the Marshall county members of the arrangements committee for the annual meeting of the State Medical Society in 1930.

MONROE COUNTY

The Monroe County Medical Society held its regular meeting Tuesday evening, September 17, in Albia, following a six-thirty dinner at the Imperial Cafe. The meeting was a social one to which the wives of the members were invited. A woman's auxiliary was organized with the following officers: Mrs. Samuel T. Gray, president; Mrs. C. N. Hyatt, vice-president; Mrs. T. R. Castle, secretary-treasurer, and Mrs. C. B. Powell, parliamentarian. Mrs. T. A. Moran and Mrs. G. F. Stafford were elected members of the advisory board. The meeting was concluded with a theatre party.

T. A. Moran, Sec'y.

POWESHIEK COUNTY

The members of the Poweshiek County Medical Society met at the community hospital in Grinnell, Tuesday, October 15, and listened to D. C. Steelsmith, M.D., deputy commissioner of health, speak on the County Health Unit.

SCOTT COUNTY

The evening of Tuesday, October 1, the Scott County Medical Society met at the Chamber of Commerce for dinner and devoted the evening to discussion of a contract with the county supervisors for services to be rendered by the members of the society for the conduct of an already operating free dispensary. Vernon D. Blank, managing director of the State Society, was present and spoke upon the county contract as operating in other counties. The society voted to accept the proposal of the supervisors and to incorporate.

TAMA COUNTY

The Tama County Medical Society met in Chelsea Wednesday, October 2, for their regular fall meeting. Following a 6:30 dinner, A. A. Pace, M.D., of Toledo, read a paper on Obstetrics, and Frank Launder, M.D., of Garwin, spoke upon the work of the state board of health.

WASHINGTON COUNTY

Tuesday, October 1, members of the Washington County Medical Society held their monthly meeting in the nurses home. John H. Peck, M.D., president of the State Society, was the principle speaker giving a talk on Chest Diseases.

IOWA SURGICAL CLINICAL SOCIETY

The Iowa Surgical Clinical Society met in Waterloo as guests of the Waterloo Medical Society on Saturday, September 28.

IOWA STATE ASSOCIATION OF REGISTERED NURSES

The annual convention of the Iowa State Association of Registered Nurses was held in Marshalltown October 16, 17, and 18. Speakers on the program included, George T. Palmer, M.D., New York, The Measurement of Results in Public Health; Henry Albert, M.D., Des Moines, The Nurse and the County Health Plan; Miss Anna C. Gladwin, New York, Private Duty Nursing; and E. D. Plass, M.D., Iowa City, The New Maternity Program in Iowa. The meeting concluded with a noon luncheon Friday, October 18. Officers elected for the coming year are: Grace Van Evera, Davenport, president; Clara Crane, Davenport, first vice-president; Sister Mary Alberta, Council Bluffs, second vice-president; Maude E. Sutton, Des Moines, secretary; and Frances Pederson, Dubuque, treasurer. Burlington was selected as the 1930 meeting place.

DES MOINES ACADEMY OF MEDICINE

The Des Moines Academy of Medicine held an all day session, Tuesday, October 8, in Des Moines. During the morning, fifty-four local physicians took part in a series of clinics at Iowa Methodist, Iowa Lutheran, Mercy and Broadlawns General Hospitals. After a noon luncheon held at the Hotel Fort Des Moines, Dr. Leon Asher, professor of physiology, University of Berne, Switzerland, spoke on the Action of Specific Diuretics and the Secretion of Kidneys under Physiological Conditions. Dr. Andre Crotti of Columbus, Ohio, presented Management of Goitre Conditions, following which a moving picture, "The Life of Pasteur", was shown. The evening session which was also held at the Hotel Fort Des Moines consisted of

another address by Professor Asher, New Facts on the Physiology of the Thyroid Gland, and an illustrated address by Dr. Crotti, Etiology of Endemic Goitre. Officers of the Academy are: Dr. Julius Weingart, president; Dr. Merrill M. Myers, vice-president, and Raleigh R. Snyder, secretary-treasurer.

AMERICAN COLLEGE OF PHYSICIANS

The Fourteenth Annual Clinical Session of the American College of Physicians will be held at Minneapolis, Minnesota, February 10 to 14, 1930. Announcement of the program will be made at a later date in this Journal.

THREE NEW AUXILIARIES ORGANIZED

The Journal is glad to report the addition of three Woman's Auxiliaries to the growing list of such organizations. It was previously reported that the Woman's Auxiliary to the Iowa State Society was organized during the annual session in May. The Dallas-Guthrie Society, the Twin Lakes District Society, and the Upper Des Moines District Society have since then organized auxiliaries as announced in previous issues of the Journal. Now Monroe County, Polk County, and Woodbury County are added to the list.

MONROE COUNTY WOMAN'S AUXILIARY

Tuesday, September 17, at a meeting of the Monroe County Medical Society, permission was granted and the Woman's Auxiliary to the Monroe County Medical Society was organized. Officers of the newly formed organization are: Mrs. S. T. Gray, president; Mrs. C. N. Hyatt, vice-president; Mrs. T. R. Castle, secretary-treasurer; Mrs. C. B. Powell, parliamentarian; Mrs. T. A. Moran and Mrs. G. F. Stafford, advisory board.

POLK COUNTY WOMAN'S AUXILIARY

Thursday, October 24, at two-thirty in the afternoon, the wives of Des Moines and Polk County physicians were invited to the home of Mrs. F. E. V. Shore, an officer of the State Woman's Auxiliary, to complete the organization of a Woman's Auxiliary to the Polk County Medical Society.

The officers are as follows: Mrs. F. E. V. Shore, president; Mrs. Frank Ely, vice-president; Mrs. George McCreight, secretary; and Mrs. John Connell, treasurer.

WOODBURY COUNTY WOMAN'S AUXILIARY

The organization of Sioux City and Woodbury County physicians' wives, which has for several years been an active and effective aid to the county society, has added its impetus to the auxiliary movement. At the first meeting held this fall, it was voted to adopt the title, "Auxiliary to the Woodbury County Medical Society", as well as the national standard auxiliary constitution for county organizations. The officers are as follows: President, Mrs. J. C. Decker; vice-president, Mrs. Geo. E. Rinker; secretary, Mrs. B. A. Bowers; treasurer, Mrs. W. E. Cody.

PERSONAL MENTION

DR. W. J. S. CREMIN, Sioux City, is recovering from an operation performed at the Mayo Clinic, Rochester, Minnesota, Wednesday, October 9, according to reports received by friends in Sioux City.

DR. E. A. NASH, formerly of Floyd, has located in Lone Tree, Iowa, and will continue the practice of medicine there. His daughter is attending the State University at Iowa City, taking the Nurses Training Course.

DR. W. C. NALTY has moved from Grand Mound to Walla Walla, Washington, where he is assigned to duty in the U. S. Veterans Bureau Hospital.

DR. DALE HARTLEY, of Knoxville, who is a recent graduate of the medical college at the State University, is leaving for Salem, where he will enter upon the practice of medicine.

DR. JOHN W. THORNTON, after many years of practice in Lansing is leaving for Waterloo, where he will enter hospital work with his cousin, Dr. Thomas F. Thornton.

DR. AND MRS. J. O. WEAVER left Shenandoah the evening of October 19 for a two weeks eastern trip, during which time Dr. Weaver will attend the convention of the American Academy of Otolaryngology in Philadelphia and Atlantic City, and clinics in New York City.

DR. CLEVE COAKLEY has returned to Creston after a month's vacation, spent at Johns Hopkins University and at Chicago medical centers, where he took special post graduate work.

DR. D. J. MEENTZ, Fort Madison, was severely injured about the head as a result of an automobile accident which occurred the evening of October 17.

DR. J. E. O'KEEFE AND DR. W. O. PREECE of Waterloo have announced that Dr. Paul O'Keefe is to be associated with them in the practice of medicine. Dr. Paul O'Keefe, who is a nephew of Dr. John O'Keefe is a graduate of the medical school of St. Louis University, and has been serving on the staff of St. Anthony's Hospital in St. Louis.

IOWA PHYSICIANS who attended the conference of the American College of Surgeons in Chicago include Drs. J. Dewey Bisgard, H. Bocken, and A. L. Nielson, all of Harlan; Drs. K. R. Werndorff, Grant Augustine, McMicken Hanchett, M. E. O'Keefe, and Earl Bellinger, all of Council Bluffs. The following Iowa physicians were elected to fellowship in the American College of Surgeons: Harold L. Brereton, Emmetsburg; Thomas J. Irish, Forest City; Charles H. Merrill, Oskaloosa; Cecil S. O'Brien and George M. Scanlon, Iowa City; Joseph C. Powers, Hampton, and John Sybenga, Pella.

THREE IOWA PHYSICIANS attended the annual meeting of surgeons of the Rock Island Railway held in Denver recently. They are Drs. Gordon F. Harkness and Peter A. Bendixen, Davenport, and Dr. H. E. Campbell, Anita.

MARRIAGES

The marriage of Miss Alyce M. Kennedy to Dr. Callistus H. Stark, of Cedar Rapids, took place Wednesday morning, October 2. Dr. Stark is a recent graduate of Marquette University at Milwaukee, Wisconsin and is engaged in the practice of medicine in Cedar Rapids.

OBITUARIES

BESORE, WALTER McKAY, Macedonia, died October 2 at the age of fifty-five; graduated in 1898 from the State University of Iowa College of Medicine. At the time of his death he was a member of the Pottawattamie County Medical Society.

McGREW, OLIVER W., Columbus Junction, died October 1 at the age of fifty-six; graduated in 1905 from the Keokuk Medical College of Physicians and Surgeons. At the time of his death he was a member of the Louisa County Medical Society.

DANIELSON, ALBERT, Council Bluffs, died at the age of thirty as the result of an auto accident; graduated in 1923 from the Creighton University School of Medicine, Omaha, Nebraska. At the time of his death he was a member of the Pottawattamie County Medical Society.

IRISH, HARRY R., Forest City, died October 7 at the age of sixty-nine; graduated in 1883 from the State University of Iowa College of Medicine. At the time of his death he was a member of the Hancock-Winnebag County Medical Society.

WATSON, GEO. LEWIS, Cherokee, died September 23 at the age of seventy as the result of automobile injuries previously received; graduated in 1897 from the Keokuk Medical College. At the time of his death he was a member of the Cherokee County Medical Society.

DEAN, FRED M., Jefferson, died October 16 at the age of sixty-two from pneumonia; graduated in 1892 from University of Illinois College of Medicine, Chicago. At the time of his death he was a member of the Greene County Medical Society.

RUSH R. GINGLES, Onawa, Iowa

Dr. Rush R. Gingles was born in Mercier county, Illinois, on March 20, 1870. He died on Saturday, July 13, 1929, at his home in Onawa of pulmonary tuberculosis, which kept him bedfast for a number of months. He was a graduate of the Louisville Medical College, Louisville, Kentucky, in 1893, and commenced his practice at Castana, Iowa, in the same year. He was married in 1897 and moved to Seattle, Washington, where he lived for twelve years. He returned to Onawa in 1910, where he was engaged in his practice until his death. He is survived by two daughters and two brothers, one of the latter being Dr. W. W. Gingles of Castana, Iowa.

At the time of his death, he was a member of the Monona County Society. The proof of the very high esteem in which this worthy brother was held was plainly demonstrated at the last rites, when hundreds gathered to pay their last respects to his memory.

E. J. Liska, Sec'y-Treas.

LEWIS S. BREWER, Quimby, Iowa

Lewis Stanhope Brewer was born at Fore Locks, Maryland, October 3, 1870, and passed away at Berwick, Pennsylvania, August 12, 1929. Dr. Brewer graduated from

the State University of Iowa College of Medicine, in 1896 and located at Quimby, Iowa, in October of that year. In December, 1896, he was united in marriage to Miss Rose B. Dowding. To this union were born five children, four of whom are left with the wife to mourn the passing of a devoted husband and father. Dr. Brewer was a capable and conscientious physician, a man of integrity and sterling worth, and during the thirty-three years of his practice at Quimby and vicinity he won the respect and the esteem of the entire community.

Paul E. Allen.

ROGER NELSON CRESAP, Keokuk, Iowa

Roger Nelson Cresap, Keokuk, died in St. Joseph's Hospital, Keokuk, Iowa, August 7, 1929, after an illness of three weeks. Dr. Cresap was born July 29, 1857, at Bonaparte, Iowa. He graduated from Kansas City Medical College in 1885, serving an internship in a Kansas City Hospital, and then practiced in Kansas City for six years. He came to Bonaparte in 1892 and during all these years he has been one of the highly regarded and trusted physicians of his county. He was always kindly, generous and just. Even when suffering, as he had been during several years, he was courageous, cheerful and ready to go to the relief of suffering in others.

Dr. Cresap was married to Elizabeth Borland in 1886. He is survived by Mrs. Cresap and two daughters, Mrs. Morton Hughes of Storm Lake, Iowa, and Miss Mary Elizabeth Cresap of Bonaparte.

His death was the result of chronic endocarditis, due to many recurrent attacks of acute rheumatic fever. It takes much more than the years now required in advanced medical education, to produce a man of Dr. Cresap's wisdom, kindness, generosity, self-sacrifice and value to the world. The men in Iowa who knew him will sincerely miss him and will extend sympathy and friendship to Mrs. Cresap and his family.

Frank M. Fuller.

O. W. McGREW, Columbus Junction

Dr. O. W. McGrew of Columbus Junction passed away Tuesday evening, October 1, after a brief illness of only a few hours. The following tribute has been received for publication in the Journal from Dr. McGrew's fellow members of the Louisa County Medical Society:

Whereas, in the mysterious providence of our ever kind Father in Heaven He has seen fit to call home to his reward our brother physician and friend, Dr. O. W. McGrew,

Therefore, be it resolved, that this Society has lost a most loyal and earnest member, and this community, and Grandview, where he began his practice, removing to Columbus Junction about ten years ago, a most valuable citizen.

And be it further resolved, that to those of us who knew him best, his life well demonstrated the prerequisites of a real family physician, as well as the sterling and splendid qualities of a real man in his daily contacts with every one.

Dr. McGrew will long be remembered as a kindly, generous, faithful physician, who held high ideals in the ethics of his profession.

And be it further resolved that these resolutions be entered upon the records of this Society, and that our secretary be instructed to forward a copy to the family, and also to the Iowa State Medical Journal for publication.

Signed:

S. J. LEWIS,
O. A. KABRICK,
D. J. HIGLEY,
Committee.

H. B. JENNINGS, Council Bluffs

Dr. H. B. Jennings died at Edmunson Hospital, Council Bluffs, Friday, September 6, 1929, of a cardio-renal type of disease which began several years ago and led to his retirement from active practice.

Dr. Jennings was born at Warsaw, Indiana, September 28, 1860, graduated from Keokuk Medical College in 1882. First located in the practice of medicine at Weston, Iowa,



DR. H. B. JENNINGS

near Council Bluffs, the same year, and moved to Council Bluffs in 1889, where he engaged in a successful general practice until his retirement about ten years ago. The year of his graduation he married Miss Harriet Pond, who survives him.

Dr. Jennings early gained a high reputation for his ideals as a physician and a man. These qualifications well fitted him to serve organized medicine in an efficient and helpful manner and from 1891 on, for several years, was secretary of the Council Bluffs Medical Society. Dr. Jennings for several years served on important committees of the State Medical Society, the most important of which was councilor of his congressional district. He also occupied important and influential positions in various railway medical associations, the Rock Island and the Chicago and Northwestern Associations, and at the time of his death was first vice-president of the American Association of Railway Surgeons.

MEDICAL ECONOMICS COMMITTEE
CONSIDERS TASK

In accordance with the resolution directing the selection of a Committee on Medical Economics, President Peck appointed the following: Thomas U. McManus, Waterloo, chairman; R. F. Childs, Audubon; Corwin S. Cornell, Knoxville; J. C. Donahue, Centerville; and I. E. Nervig, Sioux City.

The task of this committee as outlined by the resolution creating it, is to study the "economic status" of physicians especially relating to "treatment in mass". The committee held an all day meeting in Marshalltown Tuesday, October 22, adopted several provisional principles, and laid down a program of study along the following lines:

1. Problems in connection with immunization, especially in schools.
2. Questions arising in connection with periodic health examinations.
3. Problems having to do with free clinics or dispensaries.
4. Proper attitude toward, and working relations with, the various health agencies.
5. Contracts for care of the indigent sick.
6. Some means of dealing with the Shepard-Towner clinic problem.

The Committee purposes making a thorough-going study which should result in valuable recommendations, and appeals to the members of the profession and especially county society officers to communicate to it any problems which have arisen in the fields above outlined or any other questions of Medical Economics. The committee will welcome having the viewpoint of any society or member of the State Society on any of these topics. Cooperation of this sort will better enable the committee to render a real service to the physicians of Iowa.

MRS. MACRAE HEADS NATIONAL LEGION
AUXILIARY

Mrs. Donald Macrae, Jr., of Council Bluffs, was elected president of the Woman's Auxiliary of the American Legion at the national convention held last month. This is a marked honor coming to Iowa and the wife of an Iowa physician. Mrs. Macrae has been active in national auxiliary affairs and her elevation to this high office is a recognition of her active interest and executive ability.

Among the other congratulatory expressions of her numerous friends, Mrs. Macrae was the guest of honor at a social meeting of the Pottawattamie County Medical Society and its woman's auxiliary.

SOUTHERN MEDICAL ASSOCIATION

The next annual meeting of the Southern Medical Association will be held in Miami, Florida, November 19-22. Dr. Shaler Richardson, secretary-treasurer of the Florida Medical Association has extended an invitation to any members of the Iowa State Medical Association who may be in the south during this period to attend any and all of the scientific meetings of the association. The program will be divided into twenty sections and includes both formal presentations and diagnostic clinics.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- A STUDY OF MASTURBATION AND THE PSYCHOSEXUAL LIFE—By John F. W. Meagher, M.D.—Second Edition—William Wood and Co., New York, 1929—Price \$2.00.
- STERILIZATION FOR HUMAN BETTERMENT—By E. S. Gosney, B.S., L.L.B., and Paul Popenoe, D. Sc.—The Macmillan Co., New York, 1929—Price \$2.00.
- TULAREMIA, HISTORY, PATHOLOGY, DIAGNOSIS AND TREATMENT—By Walter M. Simpson, M.S., M.D.; Foreword by Edward Francis—Paul B. Hoeber, Inc., New York, 1929—Price \$5.00.
- THE MEDICAL CLINICS OF NORTH AMERICA—Issued serially, one number every other month—Volume 13, No. 2 (Chicago Number, September, 1929) Per Clinic year—Paper, \$12.00; Cloth, \$16.00 net—Philadelphia, W. B. Saunders.
- AN INTRODUCTION TO THE STUDY OF HUMAN ANATOMY—By R. J. Terry, A.B., M.D.—The Macmillan Co., New York, 1929—Price \$3.50.
- YOUR WEIGHT AND HOW TO CONTROL IT, A Scientific Guide by Medical Specialists and Dietitians—Edited by Morris Fishbein, M.D.—Doubleday, Doran and Co., Inc., Garden City, N. Y., 1928—Price, \$5.00.
- AMERICA'S SEX AND MARRIAGE PROBLEMS—By William J. Robinson, M.D., Eugenics Publishing Co., New York, 1928—Price \$3.15.
- CLINICAL MEDICINE FOR NURSES—By Paul H. Ringer, A.B., M.D.—Third Revised Edition—F. A. Davis Co., Philadelphia, 1929—Price \$3.00.
- THE NUTRITION OF HEALTHY AND SICK INFANTS AND CHILDREN—By C. Pirquet, E. Nobel and R. Wagner (Of The Children's Hospital of the University of Vienna); Translated by Benjamin M. Gasul, B.S., M.D.—F. A. Davis Co., Philadelphia, 1929—Price \$3.50.
- INTERNATIONAL CLINICS, A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles—Edited by Henry W. Cattell, A.M., M.D.—Vol. III, Series 29—J. B. Lippincott Co., 1929.
- DISEASES OF THE BLOOD—Harper's Medical Monographs—By Paul W. Clough, M.D.—Harper and Bros., New York, 1929—Price \$2.50.
- THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1930—William Wood and Co., New York—Price \$2.00.

BOOK REVIEWS

THE TREATMENT OF DIABETES MELLITUS WITH HIGHER CARBOHYDRATE DIETS

A Textbook for Physicians and Patients by William David Sansum, M.S., M.D., F.A.C.P., Percival Allen Gray, Ph.D., M.D., Ruth Bowden, B.S. Price, \$2.50. Harper Medical Monographs, Harper & Brothers, Publishers, New York and London.

For Book Review, see editorial page 502

THE NORMAL AND PATHOLOGICAL PHYSIOLOGY OF BONE AND ITS PROBLEMS

By R. Leriche and A. PoliCard—Authorized Translation by Sherwood Moore, M.D., and J. Albert Key, M.D. Octavo of 236 Pages, Illustrated. St. Louis, The C. V. Mosby Company, 1928. Cloth, \$5.00.

The translation of this work from the French text into English constitutes a definite contribution to our knowledge of bone physiology, since it places at the disposal of the English reading physicians a very complete, highly authentic, and carefully prepared treatise on this subject. The authors have presented only that information relative to the underlying physiological principles of bone formation which has stood the test of investigation and have deleted from this work all hypothetical views which have remained unsupported by careful investigation.

The chapters on bone resorption, the mechanism of adaptation of bone tissue in repair of fractures, the underlying principles of bone transplantation, and the general

consideration of the laws of ossification to bone pathology, are outstanding in their usefulness to the orthopedic surgeon or research workers in the field of orthopedics.

The volume contains a number of well-executed original drawings which have not heretofore been published. A very complete bibliography is appended.

MINOR SURGERY

By Frederick B. Christopher, M.D., Associate in Surgery at Northwestern University Medical School, Chicago; with a Foreword by Allen B. Kanavel, M.D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 Pages with 465 Illustrations. Philadelphia and London; W. B. Saunders Company, 1929. Price, \$8.00 Net.

Our literature is abundantly supplied with books on minor surgery. From the standpoint of the hospital interne this work will be of value. The author has, I fear, attempted to cover too much ground and in doing so has not been able to supply the information which is necessary to cover the subject.

The volume covers the usual field, offering chapters on the treatment of wounds, superficial infections and burns, and circulatory disturbances and gangrene. Chapters are devoted to the regional injuries to the body such as the head and neck, trunk, upper extremities, lower extremities, genito-urinary organs, etc. The volume is well illustrated.

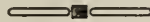
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Sioux.....	R. W. Cooper, Alton.....	Knicht E. Fee, Toledo.....	A. L. Nielson, Harlan
Story.....	Earl Rice, Ames.....	G. W. Rimel, Bedford.....	D. J. Gleysteen, Alton
Tama.....	C. W. Maplethorpe, Toledo.....	J. C. Macrae, Creston.....	Peter Joor, Maxwell
Taylor.....	J. W. Beauchamp, Bedford.....	C. R. Russell, Keosauqua.....	A. A. Pace, Toledo
Union.....	C. B. Roe, Afton.....	H. W. Vinson, Ottumwa.....	G. W. Rimel, Bedford
Van Buren.....	E. E. Sherman, Keosauqua.....	Ernest E. Shaw, Indianola.....	Leslie Lamb, Lorrimer
Wapello.....	C. S. Reed, Agency.....	W. S. Kyle, Washington.....	C. R. Russell, Keosauqua
Warren.....	Wm. E. Sperow, Carlisle.....	J. H. McCall, Allerton.....	C. B. Taylor, Ottumwa
Washington.....	John L. Frv, Kalona.....	John C. Shrader, Fort Dodge.....	Wm. E. Sperow, Carlisle
Wayne.....	B. B. Parker, Allerton.....	A. F. Fritchen, Decorah.....	H. F. Masson, Washington
Webster.....	A. A. Schultz, Fort Dodge.....	Roseoe Jepson, Sioux City.....	Ben S. Walker, Corydon
Winnebago.....	Otto Svebakken, Decorah.....	C. A. Hurd, Northwood.....	A. H. McCright, Fort Dodge
Woodbury.....	James E. Reeder, Sioux City.....	E. C. Sage, Eagle Grove.....	A. E. Conrad, Decorah
Worth.....	S. S. Westly, Manly.....		B. A. McLeary, Sioux City
Wright.....	C. F. Holler, Goldfield.....		C. A. Hurd, Northwood

BOOK REVIEWS

EDEMA AND ITS TREATMENT

By Herman Elwyn, M.D., Assistant Visiting Physician, Gouverneur Hospital, New York City. Cloth, Price, \$2.50. Pp. 182, with 3 Illustrations. New York: Macmillan Company, 1929.

The monograph is a curious mixture of old clinical and physiological facts mixed in with reviews of recent literature on edema and the author's notion as to the mechanism involved in the formation of edema. These are given as facts without submitting any adequate evidence.

The work adds nothing new to this perplexing subject.
D. J. G.

SCOTT COUNTY ARRANGES COUNTY CONTRACT

The Scott County Society met Tuesday evening, October 1, to discuss a proposal of the Scott county supervisors that the society supply the staff for the free dispensary already operated jointly by the county and two lay social-health organizations. In the past, individual physicians had been rendering this service and were remunerated therefor; but it was the feeling of the county supervisors, the nursing association, and the social agencies that a service more mutually satisfactory might be rendered through the county medical society as a unit. After an evening of discussion during which Mr. Vernon D. Blank, managing director of the State Society, was called upon to present facts from the experience of various other Iowa counties where such contracts are in force, it was voted to accept the proposal of the supervisors and a committee was appointed to undertake the incorporation of the society.

PITTSBURGH ASTHMA CLINIC

Physicians of Pittsburgh are attempting to establish an asthma clinic in connection with the Belvidere General Hospital, and if the hospital's present drive for \$50,000 is successful, such a clinic is assured.

As a start for such a clinic, two thousand questionnaires will be sent to victims of the disease during the next year,

seeking information relative to the prevalence of throat and lung infections in their families, since a study of the heredity of asthmatic conditions will be the first phase of the problem to occupy the attention of the clinic. Dr. Albert Guerinot, bronchoscopic specialist, has been announced as the first director of the clinic. Negotiations are now under way to affiliate this clinic with the Asthma Research Council in London, England.

SIOUX VALLEY EYE AND EAR ACADEMY

The annual meeting of the Sioux Valley Eye and Ear Academy will be held Tuesday, November 19, 1929, at the Fontenelle Hotel, Omaha, Nebraska.

The preliminary program is announced as follows:

11:00 A. M. and 2:00 P. M. "Histo-Pathology of the Fundus"—Dr. William C. Finnoff, Professor of Ophthalmology, University of Colorado School of Medicine. This address will be presented in two periods and illustrated with lantern slides. Discussions opened by Dr. James Patton.

3:00 P. M. "The Child with the Discharging Ear"—Dr. Arthur M. Alden, Professor of Oto-Laryngology, Washington University, School of Medicine. Illustrated with lantern slides. Discussions opened by Dr. P. C. Jeans, Dept. Pediatrics, University of Iowa.

4:00 P. M. "The Present Status of Malignancy about the Head and Neck"—Dr. Francis L. Lederer, Assistant Professor of Oto-Laryngology, University of Illinois. Discussions by Dr. John B. Potts, Omaha, Nebraska and Dr. T. R. Gittins, Sioux City, Iowa.

5:00 P. M. "The Histological Background of the Ocular Syndrome in Botulism"—Dr. Charles M. Swab, Omaha, Nebraska. Discussions by Dr. John Meyers, University of Nebraska and Dr. H. F. Gerald, Creighton Medical College.

8:00 P. M. "Recent Advances in our Knowledge of Visual Pathways"—Dr. James F. McDonald, University of Nebraska.

An interesting Dry Clinic will be shown in morning from 9:00 to 11:00 A. M.

NEW AND NON-OFFICIAL REMEDIES

Cutter Laboratory:

Diphtheria Toxoid—Cutter.

Eli Lilly & Co.:

Merthiolate.

Winthrop Chemical Co., Inc.:

Luminal Capsules, 1½ grains.

Doctor E. T. Manning

CLINICAL PATHOLOGIST



1407 Medical Arts Building
OMAHA, NEBRASKA

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Iowa State Medical Society

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No. 12

MORBIDITY AND MORTALITY IN RELATION TO THE PUBLIC HEALTH*

EARLE G. BROWN, M.D.

Secretary, Kansas State Board of Health, Topeka, Kansas

It has long been recognized it is of the greatest importance to a nation that accurate records be kept of its vital capital as expressed in its gains by births and immigration; its losses by death and emigration and the influence on the general public health by the presence or absence of disease, for: "A nation's true wealth lies not in its lands and waters, not in its forests and mines, not in its flocks and herds, not in its dollars, but in its healthy and happy men, women and children. A well man is worth more to a nation than a sick man; a man in the prime of life is of more immediate worth than an old man or a child, a married man is potentially a greater asset than a single man."

Vital statistics, therefore, provides the method of recording this vital capital and has been broadly defined to embrace any statistics, "relating to life-histories of communities or nations", or more specifically, "the numerical registration and tabulation of population, marriages, births, diseases and deaths".

Logically, morbidity registration should be considered as a very intimate part of vital statistics, but other considerations, for the time being at least, have excluded it. We shall, therefore, confine our discussion to morbidity and mortality and the various reactions they may have on the public health.

Morbidity—The ratio between the number of cases of a particular disease in a year and the mid-year population, expressed usually in hundred thousands. The morbidity rate is often referred to as the "case" rate.

Mortality—The ratio between the number of deaths from all causes and the mid-year population and expressed in thousands. Usually, the rate for

individual diseases is expressed in hundred thousands.

Infant Mortality—The number of deaths of infants during the year, divided by the number of infant births during the same year. An infant is a child under one year of age.

Maternal Mortality—The number of deaths of women from maternal causes during the year, for each 1,000 live births for the same year.

Compulsory registration of cases of diseases dangerous to the public health is comparatively recent. The first state to make use of morbidity registration was Massachusetts in 1874, when 100 physicians agreed to cooperate with the state board of health and make weekly notification of the prevalent diseases. In 1884, the Massachusetts legislature enacted a law requiring householders and physicians to immediately report to the local board of health all cases of smallpox, diphtheria, scarlet fever, or any other disease dangerous to the public health. All states now have similar laws, and state health departments are authorized to designate such diseases as shall be reported.

Uniform cards for making return of the notifiable diseases are used by state health departments, physicians or householders usually making report direct to the local health department, which in turn, forwards the accumulated reports each week, to the state health department. In a number of states, physicians make reports direct to the state health department.

Unless prompt report of communicable diseases be made, they have little or no value, other than for statistical purposes. The primary reason for reporting communicable diseases is to notify the local health officer of the presence of such diseases in the community. This will allow the health officer to warn the public of the disease by placarding the home; to investigate the source of infection and use proper measures for the suppression of same and through careful publicity warn the community of epidemic diseases and advise as to the proper methods of prevention.

Reports of diseases are valuable for study, rela-

*Presented before the Seventy-Eighth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 8, 9, 10, 1929.

tive to occurrence by sex, age groups, color, occupation and geographical distribution. It is well known among medical men the great majority of the serious infections such as diphtheria, scarlet fever, whooping cough or measles, occur in children under ten years of age; that typhoid fever is more prevalent in young adults and the greater number of tuberculosis infections are contracted in childhood. Certain occupations have an influence in the development of tuberculosis, especially those occupations where the employes are subjected to irritating dusts and vapors. Although these data are well known, the evidence is all the more convincing to the public if they are shown these conditions actually exist "at home".

Reports of the more serious acute infections such as diphtheria, scarlet fever, acute anterior poliomyelitis and epidemic meningitis are fairly complete, but comparatively small numbers of the diseases considered as minor but necessary (mumps, measles, chickenpox and whooping cough) are seen by physicians in private practice. This statement is based on reports received from full time county health departments in Kansas, for their records show as high as 90 per cent of these diseases are reported by parents or diagnosed by the health officer. The reason for this apparent laxity in calling a physician is that the child is not sick, and consequently does not need medical attention, unless he becomes seriously sick. There are also, many parents who still believe "he might as well have it now, and get it over with".

Some physicians do not report all their cases of contagious diseases. Oftentimes, a conservative physician delays to make certain of his diagnosis and then when he has made his diagnosis, forgets to make report; some physicians are careless, while others deliberately shield their patients from possible inconvenience of quarantine by "smothering" the report. More and more, however, the physician in private practice realizes that in the proper handling of a case of communicable disease, he has a public as well as a private duty.

It is to be regretted there is no method of determining morbidity data relative to non-communicable diseases. Deaths from the so-called "degenerative" diseases—the most common examples being heart disease, nephritis and cerebral hemorrhage—and cancer, are in general showing marked increases. Cancer is one of the diseases which is classed as notifiable, but only occasional reports of cases are received. If accurate reports of these diseases had been made over a great number of years, it could then readily be determined if the number of cases was actually increasing.

Death registration is much more recent than morbidity registration. A so-called registration

area for deaths was established in 1880, and included those states and cities in which satisfactory registration laws were being effectively enforced and where there was good reason to believe more than 90 per cent of deaths were being officially recorded. The original registration area included only two states, Massachusetts and New Jersey and certain cities in other states. The area has gradually expanded and at the present time only two states have unsatisfactory laws and consequently are not eligible for admission. Kansas was admitted to the death registration area in 1917, although the Division of Vital Statistics was established by the 1911 legislature and accurate data are available since the year 1912. Iowa was admitted to the death registration area in 1923. One of the prime requisites for admission, is the state shall have a satisfactory law and one of the requirements of this law, is that burial permits are required for each burial. For this reason, death registration is considered as complete.

The registration of deaths has a two fold purpose: first, to the individual and second, to the community. The Bureau of the Census issues a pamphlet listing seven reasons for the registration of deaths, three applying to the individual and four to the public health:

4. Deaths shall be registered that public health agencies—national, state or municipal—may know the causes of death and act promptly to prevent epidemics.

5. Deaths shall be registered promptly that the success or failure of all measures attempted in the prevention of disease may be accurately determined.

6. Deaths should be registered that individual cities and localities may learn their own health conditions by comparison with the health conditions of other communities and determine thereby the wise course of public health activity.

7. Deaths should be registered that homeseekers and immigrants may be guided in the selection of safe and healthful homes.

Deaths records in general, have direct value to public health officials in indicating the need for services and in appraising the progress achieved by public health methods.

Mortality statistics—if completely reported and properly interpreted—furnish the index of the health of the population. Infant and maternal deaths—which may only be computed if births as well as deaths are completely reported—give an idea of the type of care received by maternity cases, as well as the infants. Reports of deaths from communicable diseases may be the first notice received by the health officer of an epidemic disease in that particular community.

Proper and prompt death recording serves as an index of the rise or fall of various diseases and

especially in reference to their geographical distribution. Morbidity reports, of course, are a more valuable index, for in an outbreak of such a disease as typhoid fever, and case reports are not received, the infection may be well distributed before the death certificates are received in the state health department. The ideal situation is where morbidity and mortality are both promptly reported, for knowledge of both non-fatal and fatal cases is most important. Mortality reports, incidentally, furnish a continual independent check upon the completeness of morbidity reports.

It is indeed a source of gratification for the health officer to show definite achievements as the result of his efforts and the expenditure of the public's money. It is easy to show by statistics the public health has improved in the last two or three decades. It is more important, however, for the health officer to show public health has been bettered in his community as the result of his application of modern public health methods.

Mr. Edgar Sydenstricker, statistician for the U. S. Public Health Service, sets down as one of the first rules to be followed in measuring public health progress, one must try to measure achievement along specific lines, rather than general progress. That is, we must evaluate separately the control we are acquiring over tuberculosis, diphtheria, typhoid fever, or whatever conditions we are specifically attacking.

It is my desire to illustrate the specific value of morbidity and mortality and for this purpose shall use data as taken from the records of the Kansas State Board of Health and of course applying to Kansas. Before so doing, we wish to present some data relative to the physical makeup of the state. Figure I.

The population for 1928, according to the State Board of Agriculture, was 1,838,425, with approximately 5 per cent colored, 3 per cent of foreign birth, and the remaining nearly 92 per cent being white, native born. The principal occupation is agriculture. For further presentation of the data, we have divided the state into six divisions, of nearly equal area.

The northeast section contains approximately 34 per cent of the total state population, and 38.7 per cent are protected by full-time city or county health departments. There are two large cities with a combined population of 170,000. City water supplies are available to more than 52 per cent of these citizens, and sewer systems to 46 per cent.

The southeast section contains approximately 26 per cent of the state population and 20 per cent of the total reside in two counties in the extreme southeast corner, coal, lead and zinc mining being

the principal industry. Great numbers of miners and their wives are of foreign birth. There are extensive oil fields in three of the counties. Approximately 50 per cent of this population have access to city water supplies, but only 39 per cent to sewer systems. Five counties have full time health departments giving health protection to 25 per cent of the population.

The north central section has a population in excess of 214,000, or less than 12 per cent of the state population. One county has a full time health department. The largest city has a population in excess of 18,000, the remainder of the area being distinctly agricultural. However, 38.2 per cent of the population have access to city water supplies and 35 per cent to sewer systems.

The south central section has a combined population in excess of 358,000. Wichita, the second largest city in the state is located in this area, this city having a population in excess of 100,000, and having a full time health department. In addition, one county has a full time health officer. Approximately 60 per cent of the population have both city water supplies and sewer systems available.

The western one-third of the state contains less than 10 per cent of the total state population. Agriculture is the sole industry. There are no full-time health departments in this area.

In the northwest section, the largest city has a population of only 3,500. Less than 29 per cent have available city water supplies and approximately 17 per cent sewer systems.

The largest city in the southwest section has a population slightly in excess of 8,000. One-third of the population have access to both city water supplies and sewer systems.

With this general summary, we wish to present specific morbidity and mortality data, on the diseases shown in the chart.

Diphtheria—Sixty-one deaths were reported in 1928, the death rate being 3.3 per 100,000 population. This record has been exceeded in only one previous year, 1926, when forty-nine deaths were reported and the death rate was 2.7. It is only natural the greater number of cases and deaths will occur in the most densely populated areas, but you will note the northeast section with the greater population ranked fourth in case and death rates. The southwest section recorded both the highest case and death rates. According to records in our office, the least immunization work has been done in this particular area, while at last 40 per cent of the susceptible age group in the northeast section have been protected. Comparison of these two areas, we believe, demonstrate the value of not only toxin antitoxin immunization but the effective work of full-time city and county health depart-

CASE AND DEATH RATES PER 100,000 POPULATION FOR CERTAIN INFECTIOUS DISEASES - KANSAS.

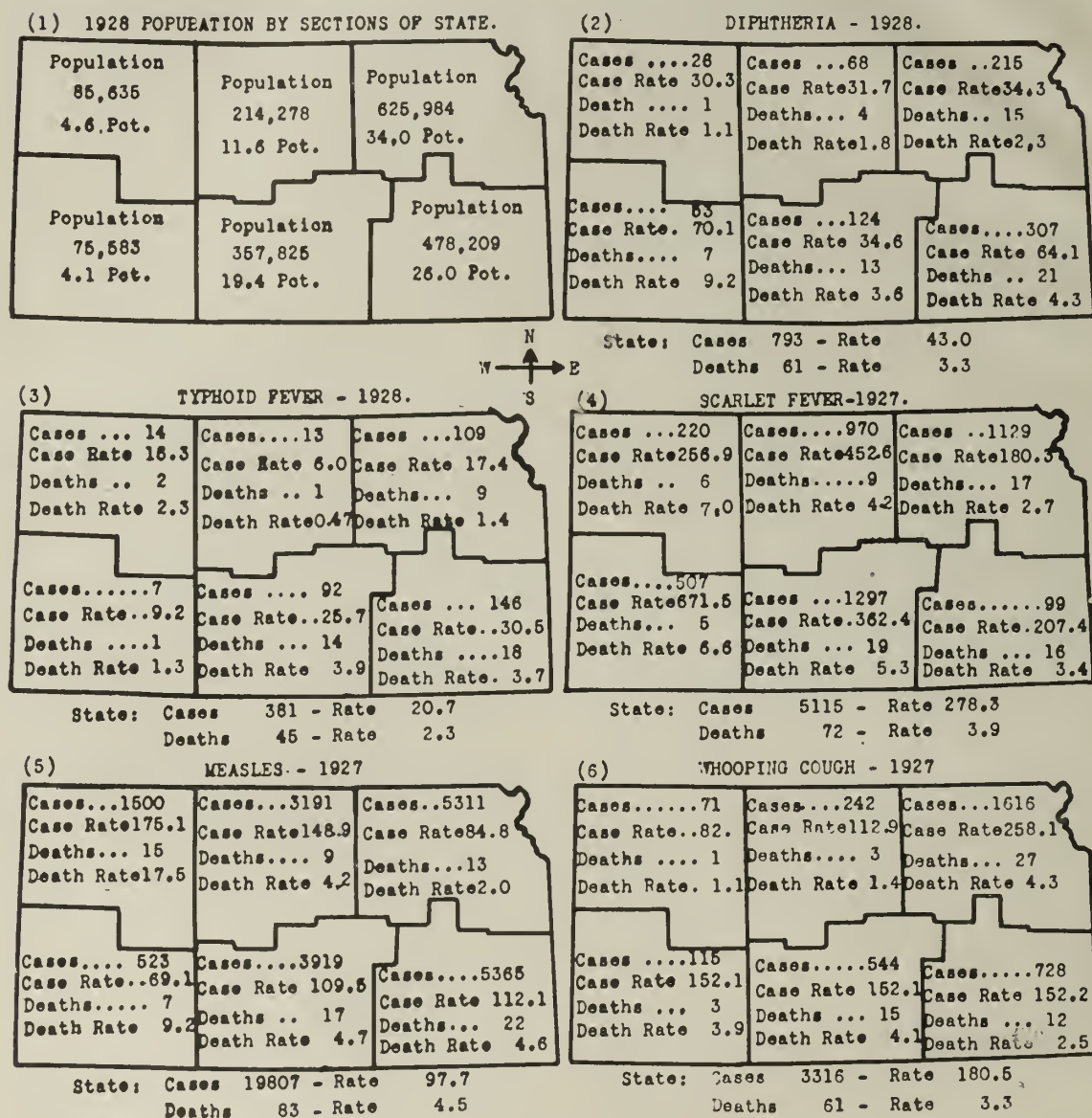


FIGURE I

ments. This comparison also shows where greater efforts must be made to make further reduction in diphtheria incidence.

Typhoid Fever—Reported cases and deaths from typhoid fever have shown an almost constant decrease from year to year since 1919, and the lowest number of cases and deaths was recorded in 1928. It is our opinion almost complete reports of cases were received, for you will notice the case death ratio was nearly twelve to one. You will note the highest case rate was recorded in the southeast section and here the problems in sanitation are greatest. In this area, a number of cases were reported where the infection was contracted in one

of the two bordering states. Here also, the only epidemic traced to milk was reported, there being eleven cases, and the source of infection a dairy in an adjoining state. The problem of typhoid control lies in the proper restriction of cases and carriers and sanitary disposal of their excreta; a pure water, milk and food supply and the use of typhoid fever vaccine.

Scarlet Fever—The most extensive epidemic of scarlet fever in the history of the state has been recorded in the past two years, with a total of 10,612 reported cases. The great majority of cases have been of an exceedingly mild type, in many of them the eruption lasting only a few

hours. Yet serious complications have been exceedingly common and many deaths have occurred. Our experience has been that the control of scarlet fever lies in the institution of full-time county health departments. Compare the northeast section with a dense population and 39 per cent protected by full time health departments and the southwest section, distinctly rural, and all under part time health protection. The northwest section has a high death rate and it is not within reason to presume with a death rate of 7.0 per 100,000 population, all of the cases were reported. In our opinion, the control of scarlet fever, lies not alone in the quarantine of cases of the disease, but in their being kept in quarantine until complete recovery is made and any complications that might have developed have ceased to be infectious. In addition, the most important, is the control of contacts, which during the school year will require a daily inspection by the health officer for a period of seven days after last exposure.

Measles—This disease also presents a serious problem in control and here again is need for daily inspection of the pupils. A summary of the 1927 epidemic, again demonstrates the value of full-time health protection, for the lowest case and death rates were recorded in the sections of the state where health departments were most active. Again, with the exceedingly high death rates, it is not reasonable to presume reports of all cases were received from the western one-third of the state.

Whooping Cough—The control of this disease is most difficult. The great majority of cases occur in infants and very young children and more than 50 per cent of deaths are in infants under one year of age. In whooping cough, an important factor in dissemination is density of population including large numbers of infants and young children. Whooping cough vaccine is generally regarded as having little value in prevention, but should be used in the treatment of cases. The only sure preventive is avoidance of exposure, and the method of control is not alone the quarantine of active cases, but also the contacts.

Maternal Mortality—In the past ten years in Kansas, the maternal mortality rate has ranged from five in 1925 to 8.1, in 1921. The maternal mortality rate in 1927, was 5.8, there being 206 deaths and 35,234 live births. Of the 206 deaths, 139, or 67.4 per cent resulted from puerperal hemorrhage, septicemia or albuminuria and convulsions. Investigations by the Children's Bureau show maternal mortality is much higher in rural sections, owing to isolation and distance from medical attention and hospital facilities. We know the physician attending rural maternity cases is frequently called in only for delivery and for this

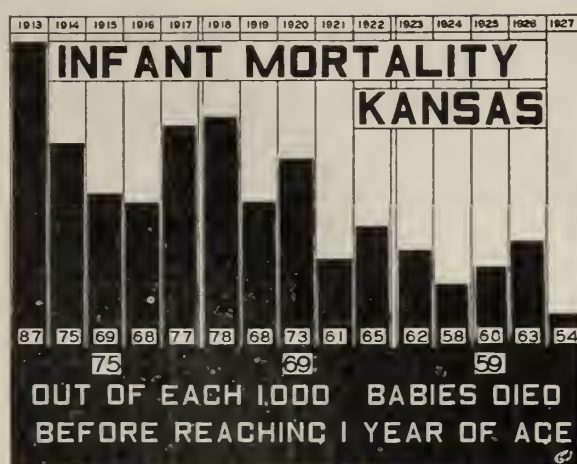


FIGURE II

reason has not had the opportunity of knowing the physical condition of the mother or the position of the child. Neither has he had the opportunity of advising proper diet or the precautions the expectant mother should use.

In an effort to secure further information relative to maternal mortality, our department is requesting physicians to supply further information on such deaths occurring during the year 1929, especially as to whether the mother was under the care of the physician or other physicians during pregnancy. We cannot as yet, form any definite conclusions, but it would appear on the basis of returns for the first quarter at least 50 per cent of the deaths could have been prevented by proper medical supervision. The problem of reducing maternal mortality lies not alone with the physician, but in educating the expectant mother she should be under medical supervision from the time of conception, should avoid heavy work, and ample preparation should be made for delivery, hospital service being preferred.

Infant Mortality—The highest infant mortality rate on record in Kansas, is 87.9, in 1913, and the lowest, 54.1 in 1927. In 1927, there were 1,906 infant deaths, and of this number, 1,710, or 82.1 per cent were under six months of age. The greatest single cause was premature births, 562 deaths, or 29.5 per cent of infant deaths being attributable to this cause. Infectious diseases caused 368 deaths, or 19.3 per cent—pneumonia being the greatest single cause; 237 deaths were the result of congenital malformations; 175 were the result of diarrhea and enteritis; 135 died as a result of an injury received at birth; 111 resulted from congenital debility and all other causes totaled 320. (Figure II.)

The control of a number of definite etiological factors will greatly reduce the number of infant

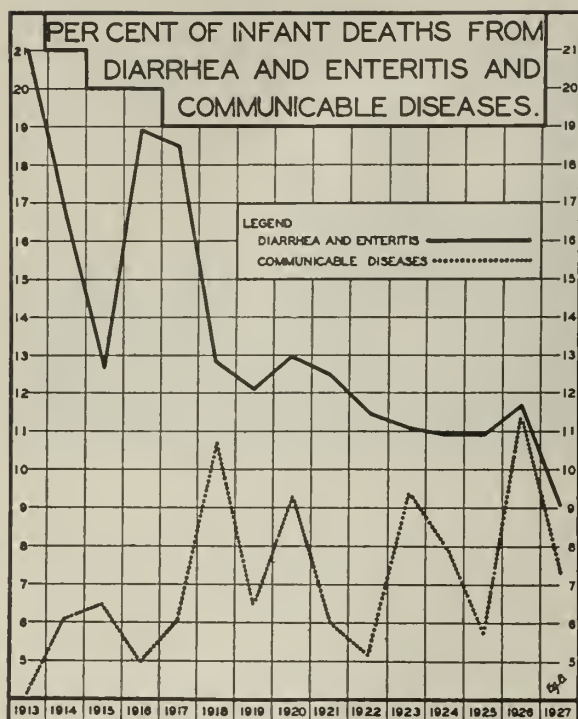


FIGURE III

deaths. Pure milk and water supplies are a protection against diarrhea and enteritis, as will proper supervision of the artificial feeding of infants. Intensive work has been carried on in Kansas relative to pure water and milk and this program, together with education of the mothers on infant feeding, shows the results in decreased deaths from this particular cause. Approximately ninety cities and villages have ordinances relating to the production and sale of milk. Infectious diseases have shown a tendency to increase. (Figure III.)

It will be noted in infant mortality by sections of the state, the highest is in those areas which are most rural; where patrons are longest distances from physicians and in those communities having modern conveniences. (Figure IV.)

Many infant deaths could be prevented by proper medical supervision during the pregnancy.

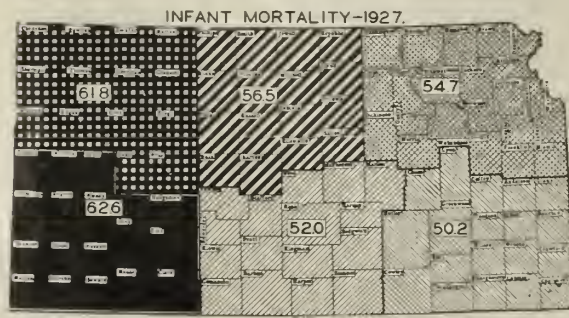


FIGURE IV

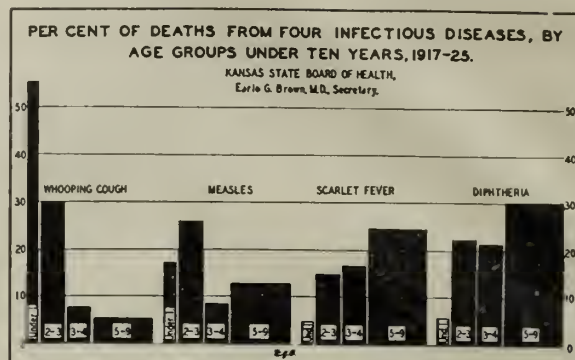


FIGURE V

Here again, our department is attempting to secure during the year 1929, additional information from the physicians where premature birth is given as the cause of death.

A few further graphs, we believe will further illustrate the value of morbidity data:

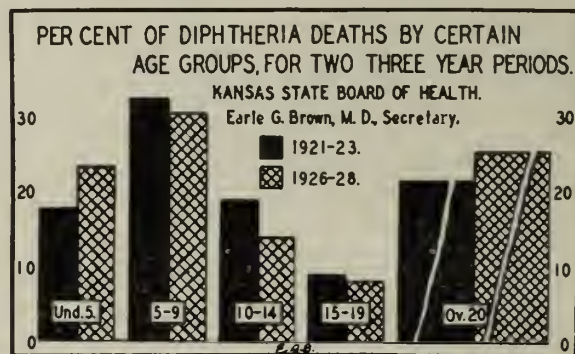


FIGURE VI

Possibly there may be some of you who do not enjoy the study of statistics, but the following paragraph from Addison's "Vision of Mirza", will I am quite sure give them a different meaning:

"The bridge thou seest, said he, is Human Life; consider it attentively. Upon a more leisurely survey of it, I found that it consisted of threescore and ten entire arches, with several broken arches, which, added to those that were entire, made up the number about an hundred. As I was counting the arches, the Genius told me that this bridge consisted at first of a thousand arches; but that a great flood swept away the rest, and left the bridge in the ruinous condition I now beheld it. But tell me further, said he, what thou discoverest on it. I see multitudes of people passing over it, said I, and a black cloud hanging on each end of it. As I looked more attentively, I saw several of the passengers dropping through the bridge into the great tide that flowed underneath it; and upon further examination perceived that there were innumerable trap doors that lay concealed in the bridge which the passengers no sooner trod upon, but they fell through them into the tide, and immediately disappeared. These hidden pit-falls were set very thick at the entrance of the

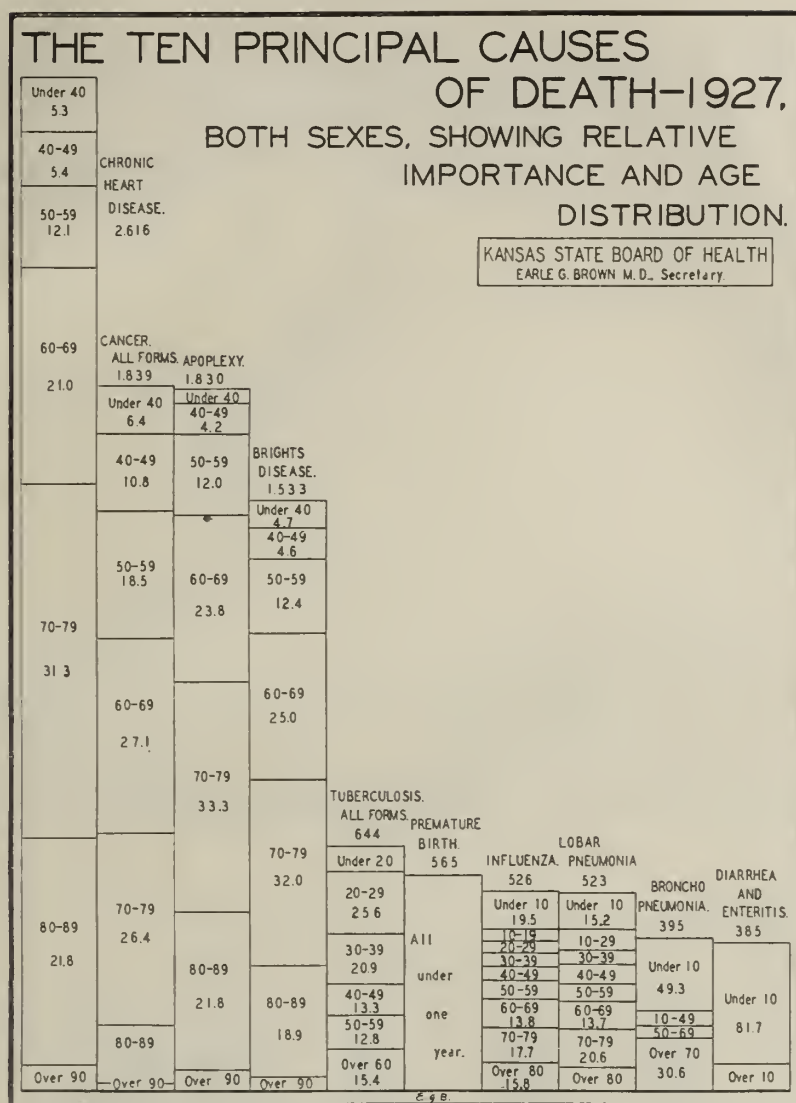


FIGURE VII

bridge, so that throngs of people no sooner break through the cloud, but many of them fell into them. They grew thinner towards the middle, but multiplied and laid closer together towards the end of the arches that were entire. There were, indeed, persons, but their number was very small, that continued a kind of hobbling march of the broken arches, but fell through one after another, being quite tired and spent with so long a walk."

CONCLUSIONS

It is not only a private duty, but a public duty that the private practitioner as well as the householder report all cases of communicable or notifiable diseases within his knowledge.

Morbidity and mortality reports are of value in giving notice to the health officer of the prevalence of communicable diseases, which enable him to take the necessary precautions in protecting the public health.

Morbidity and mortality data are of value in studying with reference to age groups, sex, color, occupation, etc.

Morbidity and mortality data are of value in appraising the need for service, as in comparing one community with another, or determining the needs of communities for public health service; in making new plans for new projects, and lastly in appraising the progress achieved in promotion of the public health.

REFERENCES

- Whipple—Vital Statistics.
E. L. Bishop, M.D.—"The Value of Vital Statistics in the Protection and Promotion of the Public Health."

DISCUSSION

DR. HENRY ALBERT, State Health Commissioner, Des Moines—I was very much pleased to note the emphasis which Dr. Brown placed on the importance of fulltime

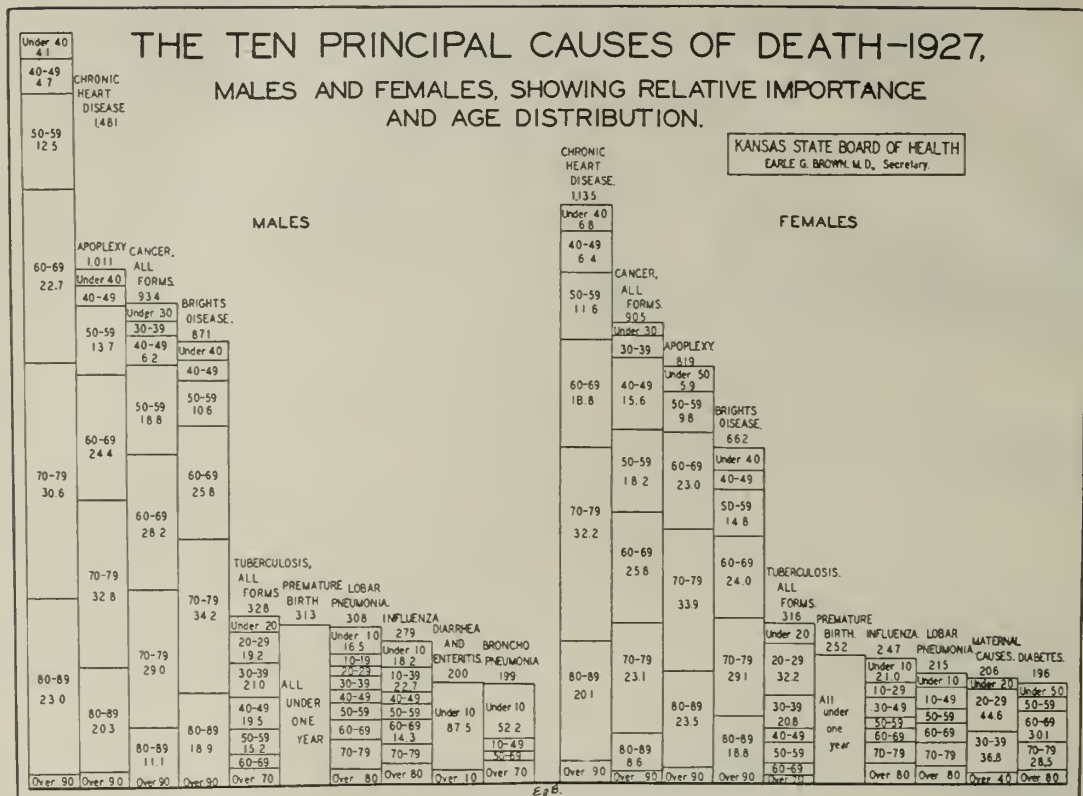


FIGURE VIII

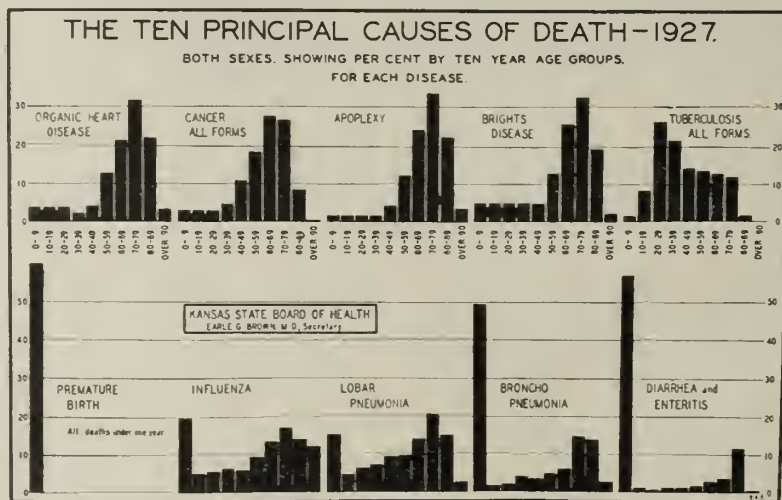


FIGURE IX

county health service in connection with public health work, and more especially in the control of communicable diseases. The very fine work being carried on in Kansas with reference to this and other public health types of service is, however, not entirely due to the fact that in Kansas the local health department has had the help and advice of the very efficient State Health Commissioner and that of his able assistants. I say this, although recog-

nizing, of course, that it has had a great deal to do with it. Many of the good results achieved are due to the fact that in Kansas they have a system of local health administration which permits the work to be well organized and placed on an efficient basis. The results that have been achieved in Kansas have been more or less duplicated in a number of states. Iowa is one of the most backward states of the union when it comes to local health adminis-

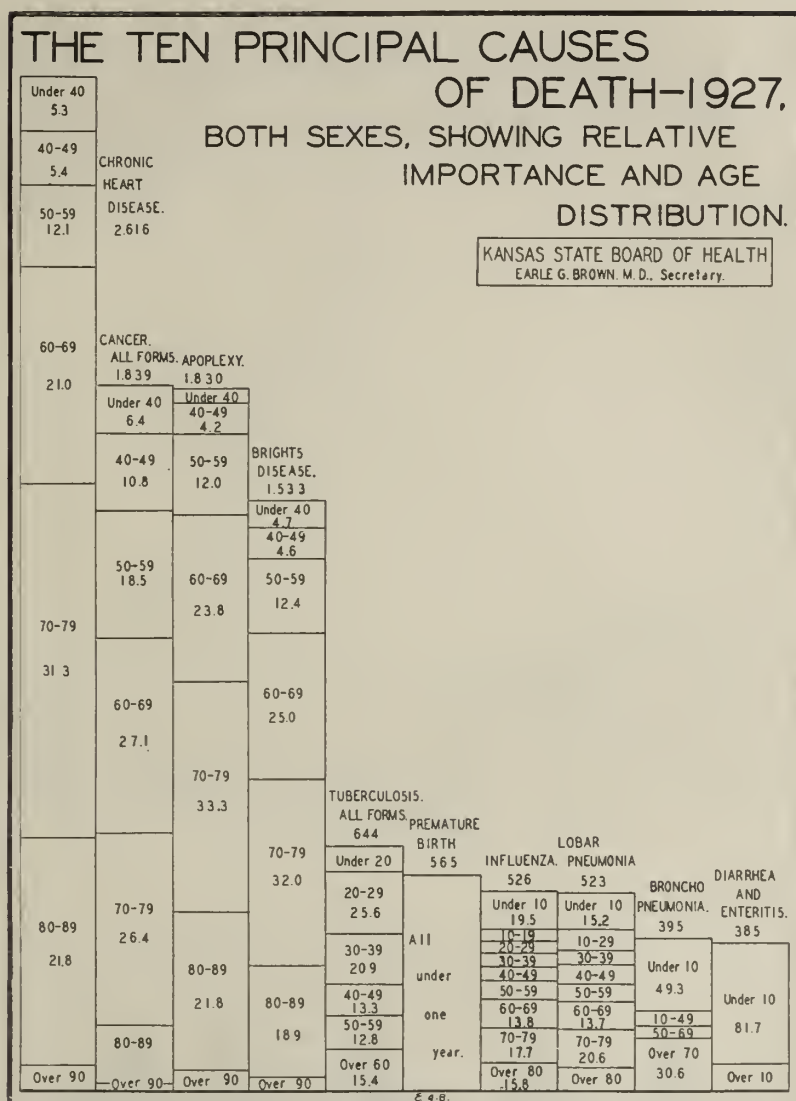


FIGURE VII

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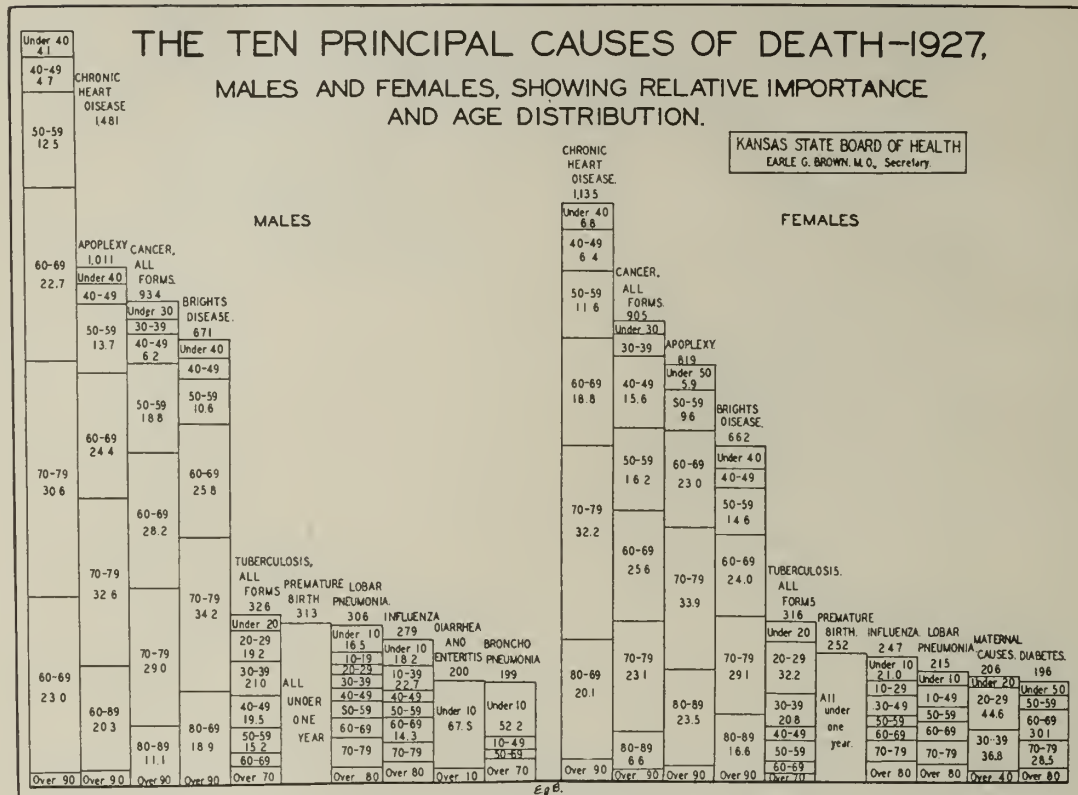


FIGURE VIII

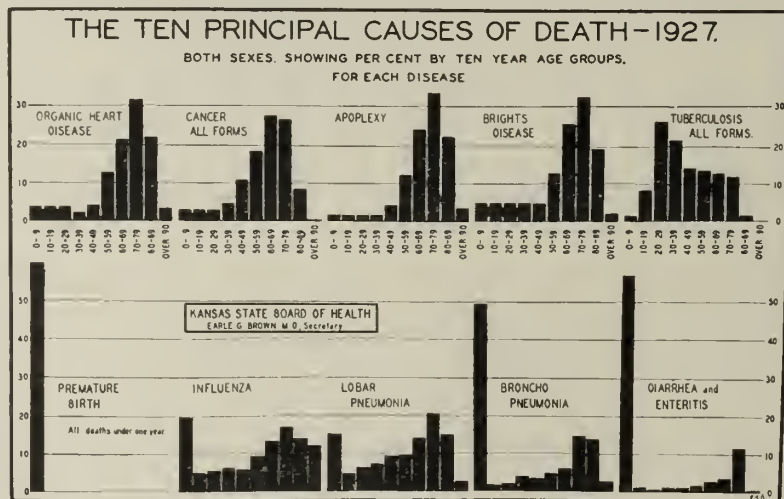


FIGURE IX

county health service in connection with public health work, and more especially in the control of communicable diseases. The very fine work being carried on in Kansas with reference to this and other public health types of service is, however, not entirely due to the fact that in Kansas the local health department has had the help and advice of the very efficient State Health Commissioner and that of his able assistants. I say this, although recog-

nizing, of course, that it has had a great deal to do with it. Many of the good results achieved are due to the fact that in Kansas they have a system of local health administration which permits the work to be well organized and placed on an efficient basis. The results that have been achieved in Kansas have been more or less duplicated in a number of states. Iowa is one of the most backward states of the union when it comes to local health adminis-

tration, and the same may be said of the State Department of Health. In order to have efficient local health work, conducted in an economical manner, and, what is also of very great importance, to have it done in a way that is most satisfactory to the practicing physicians (which includes, of course, about 99 per cent of the physicians licensed in the state)—it is necessary to have it done on a fulltime health service basis. You do not want the health officer to be a competitor of yours in the practice of medicine. At the same time, however, you want the health officer to be responsive to the wishes of those who know how disease may be prevented and who are desirous of having preventive work done in an effective manner. I am mentioning this especially in view of the fact that the legislature which recently adjourned made provision for a permissive community health bill, that is, permitting public health work of communities to be placed on a county basis. The reason for this is that in Iowa as in most other states of the Union, the great majority of cities are not large enough to be able to afford a fulltime health officer. Accordingly, the proper unit for a local health department under fulltime administration is the county. The county public health bill passed by the last legislature is the most important legislation affecting local public health administration that has ever been passed by an Iowa legislature. I believe this law to be one of the best county health laws in the United States. It gives to the medical profession the opportunity of rendering very great service to the public in helping to guide the agencies of the local public health administration. This opportunity is presented in the organization of the County Board of Health. If and when such a board is organized in a given county, it shall consist of not to exceed eleven members, three of whom shall be members of the local medical society. Such representation on the part of the local medical society should do much in seeing to it that the policies of the local health administration are sound and placed on an efficient basis. The passage of this bill places a very great responsibility on the medical profession of the state, a responsibility which will require of the profession that they see to it that public health work both local and on a state basis is given more adequate support and is administered in a sound way. No one can stop public health work. The public appreciates just as well as we do, that it is possible to accomplish a great deal more than we are now doing, in the way of preventing disease and promoting better health. And if the medical profession will not assume the responsibility of seeing to it that public health work is promoted and conducted in a sound way, it will be taken over, as indeed it has already in large part been taken over in this state, by lay organizations. Many of these want to do the right thing; they want to be helpful, but they do not always know what to do or how it should be done. The change of local health administration from what we now have to one which is on a county basis, must be a gradual growth. There are several counties in which the members of the medical profession have gone on record in favor of a county health unit. I want to say in this connection, that as a part of our duty under the law and also because of our willingness to be of service at any time, if members of the medical society of any community desire the assistance or advice of the State Department of Health we shall be glad to give it. We may also be able

to secure a little outside financial assistance for a few counties in order to get the work started on a sound and effective basis.

DR. ADOLPH J. LIEBER, Health Commissioner, Des Moines—There is one question I would ask Dr. Brown which has been overlooked in all the valuable material he has laid before us in his able paper, and that is what ways and means are provided, for instance in the three largest cities of Kansas, for disposal of their garbage. This has been a bugbear in Des Moines, and if there is any information Dr. Brown can give us that will serve to better our conditions we will be thankful for it.

DR. CLARENCE H. KINNAMAN, Topeka, Kansas—This Society may perhaps be interested in the cost of these county units, a point which so far has not been brought out here. Originally, in starting these units in Kansas, we secured aid from the Rockefeller Foundation. We have to sell the idea to the county commissioners the same as you sell it to the county supervisors in Iowa. The proposition is that the unit costs \$7,500, which includes the county health officer, fulltime community nurse and steno-clerk, with the office of the Health Department in the county court house. The county health officer draws about \$3,600 a year, and transportation; the county nurse \$1,800 a year, and her transportation of \$50 per month, and the steno-clerk \$60 to \$75 per month, with incidentals making up the remainder. That is the cost of the unit. Under the aid plan the state appropriated \$1,250 to the county, the International Health Board \$1,250 and the county made up the additional \$5,000, which operates the unit. We are able to show in all these units, over five year periods, that we have reduced communicable diseases 50 per cent, with only one-half the death rate as compared to the previous five years operated under the parttime health officer. We are also able to show in any county in the state the economic loss entailed by communicable diseases over a five-year period. We figure this on an economic basis, and if the economic loss, under a parttime health department for a certain county is \$300,000 for five years, during the next five years it will be practically the same. Under operation of the full-time units in the various counties we have cut the economic loss 50 per cent, and in the only county in which the fulltime health unit has been in operation for ten years we can show that in the next ten years we will be able again to reduce this loss 50 per cent. During the ten year period we have had in this county only one death from typhoid—this patient lived in an adjoining county, but was moved to this county's hospital and died. One child taken from a train died from diphtheria.

DR. BROWN (closing)—The question asked by Dr. Lieber may be answered briefly. The three largest cities in Kansas disposed of their garbage by letting a contract to firms that feed the garbage to hogs. It is the duty of the medical profession to assume leadership in public health. Physicians should assume this leadership because if they do not, the administration of public health problems will pass into other hands, and while there are numbers of capable unofficial agencies, county medical societies are the logical leaders in public health work. The work of the county health department is essentially prevention, and among the important problems which the county health

department must attack are the control of the communicable diseases, including immunization and preventive measures; the examination of school children and the attempt to secure the correction of physical defects, and the problems in sanitation. I would be ungrateful if I did not express the sincere appreciation I feel in having the privilege of being here and attending these splendid meetings. It seems impossible that anyone who heard the opening papers with the vital discussions that followed could go away from this meeting without a greater understanding and more comprehensive idea of the subject of cancer.

SYMPTOMS OF HYPERSENSITIVENESS AND DESENSITIZATION BY SPECIFIC ANTIGENS AND PARATHORMONE*

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Symptoms of foreign protein reactions were first described in medical literature in 1819 when Bostock read a paper before the Royal Medical and Chirurgical Society of London, in which he gave an account of what he termed "A case of periodical affection of the eyes and chest"; that is, he described his own ailment. This he followed by a second paper in 1828¹ in which he gives a more lengthy and exact account of the symptoms of the disease and endeavored to prove that they were produced by heat; the disorder was designated "Catarrus Aestivus". Bostock was quite aware of the fact that it came on during the haying season; the symptoms were known among the laity as hay fever.

In 1872 Morril Wyman,² a professor of Harvard University, also a hay fever sufferer, described "Autumnal Catarrh" in a monograph in which he links the symptoms definitely with the flowering plants of the fall. He, with many others, had discovered that the Mountain Glen House in the White Mountains was free from pollens which produced hay fever. Taking advantage of this fact, he transported the flowering weeds from Boston and its vicinity to this hay fever haven, and induced the hay fever sufferers who were free of symptoms to snuff the pollens from the blossoms. In all cases, paroxysms of hay fever or asthma were shortly produced. Kirkman,³ a hay fever sufferer in England where the fall type of flowering weeds differs from those present in America, made a similar observation upon himself by using the pollen of grasses which he had matured in his greenhouse in the midst of winter.

Blackley,⁴ of England, in 1873, reports in a monograph the results of fifteen years' work, in which

he proves that hay fever or asthma are produced when certain individuals come in contact with pollen. He was able to demonstrate this in the middle of winter, when there are no pollinating grasses, by putting pollen into the nose, throat, mucous membranes of the mouth, and instilling pollen extract into the eyes. A typical reaction could be produced by rubbing pollen into a scratch in the skin. Hay fever was produced when he attempted to vaccinate against the malady by binding dry pollen against an excoriated area on the leg. He showed through pollen counts that the hay fever symptoms were proportional to the amount of pollen in the air and that a hay fever sufferer would be free of symptoms in heavily pollen laden air if he breathed through a cotton filter placed in the nares, and protected the eyes by goggles.

Salter,⁵ in 1882, reported cases and proved beyond a doubt that their symptoms of hay fever and asthma were due to foods, hairs and danders.

All of these men noted that some of their patients, in addition to the hay fever symptoms or asthma, also suffered from urticaria, giant swellings, and gastro-intestinal disturbances accompanied by nausea, vomiting, diarrhea and great pain. None of them was aware that he was dealing with foreign protein reactions. Dunbar,⁶ with the assistance of Prausnitz, repeated the work of Blackley and confirmed it in every detail. To this he added animal experimental work, using pollen as an antigen. He was of the opinion that the pollen contained a lipoid fraction, carbohydrate fraction, and a toxin. It was his purpose to produce an antitoxin by injecting the pollen toxin into goats and recovering the antitoxin in the serum. This product was placed on the market under the name of Pollentin but proved to be worthless in many cases.

Prausnitz⁷ later was able to demonstrate biologically an antibody in the serum of fish-hyper-sensitive individuals. This work will be described later.

As I said previously, none of these men before Dunbar and Prausnitz appreciated the fact that he was dealing with foreign protein reactions. Immunology had not developed up to this time to a degree which showed any similarity between the reactions of the experimental animals and the symptoms in the patients. However, the work of Dunbar showed that they were attacking the subject from an immunological standpoint.

In 1907 Kitzmiller,⁸ and later numerous authors, observed that asthma was relieved by the injection of diphtheria antitoxin; this practice was dangerous, however, as patients sometimes failed to recover from the reaction produced. But it led to

*Paper read before the Linn County Medical Society, Cedar Rapids, Iowa, December 13, 1928.

the idea that asthma and anaphylaxis were in some way related. Anaphylaxis at this time was a rather recent discovery, and is now a term restricted to the symptoms observed when a small quantity of foreign protein, which otherwise is harmless, is injected parenterally into an animal previously prepared by the injection of the same protein. The relation of anaphylaxis to asthma was strengthened by the discovery that guinea pigs died in anaphylactic shock with a marked distention of the lung and inability to get air into or out of it. This condition of the lung was not due to edema or other circulatory changes, and there was strong evidence of a marked contraction of the bronchiolar muscles. According to Wells,⁹ for anaphylaxis the following criteria must be met:

1. The observed toxicity of the injected material must depend upon the sensitization of the animal: i. e., the substance must not produce similar symptoms in non-sensitized animals.

2. The symptoms produced must be those characteristic of anaphylactic intoxication for the given species as observed in the usual reaction with typical soluble proteins, being therefore the same for all antigens with the same test animal, but differing characteristically with each species of animals.

3. It should be possible to demonstrate typical reactions in the virgin guinea pig's uterus strip.

4. The possibility that the observed symptoms are caused by capillary thrombosis must be excluded.

5. After recovery from anaphylactic shock there should be exhibited a condition of desensitization under proper conditions.

6. In addition to the above it is usually, but not always, possible to demonstrate (a) passive sensitization with the serum of sensitized animals, and (b) amelioration or prevention of bronchial spasm in the guinea pig by proper use of atropin or ephenerphrin.

This changed reactivity may usually seem to depend upon antigen antibody reactions, but at times the allergic effect follows introduction of entirely non-antigenic substances, e, g., aspirin, salvarsan; in this case it seems probable that the non-protein agent combines with proteins to constitute a specific antigen.

It is not usually accepted that this phenomena (human hypersensitiveness) is always identical with the anaphylactic reactions that have become models in animal experiment, although the two phenomena certainly have much in common. The important fact is that many of the hypersensitive symptoms that are observed in sensitized persons are identical with those seen in animals in anaphylactic shock: for example, contraction of the pilomotor muscles with erection of the hair follicles,

paroxysms of sneezing and coughing, pruritis, urticaria, respiratory distress consequent upon the contraction of the smooth muscles of the bronchials and edema of the bronchial mucous membrane, vomiting, diarrhea, diuresis and epileptiform convulsions.

Ramirez¹⁰ was the first to report the passive transfer of asthma in a patient who had received 600 c.c. of blood for pernicious anemia. The first time the patient rode behind a horse after this transfusion he had a severe attack of asthma, and on investigation it was found that the donor of the blood suffered from horse asthma.

Hooker¹¹ has shown that some individuals develop a reactivity of the skin upon the subcutaneous or intravenous administration of a small quantity of horse serum. Park,¹² in earlier unpublished results, confirms Hooker's observation of a change from a negative to a markedly positive reaction of the skin. Park has given several of these individuals second intravenous injections of horse serum without having any of them suffer the slightest constitutional reaction.

Prausnitz and Kustner⁷ have successfully demonstrated antibodies in the blood of hypersensitive individuals by showing that the skin of a normal non-hypersensitive person can be passively sensitized by the intracutaneous injection of a serum of a person markedly hypersensitive to fish. The area so sensitized will produce an urticarial wheal upon the application, by intracutaneous injection, of a solution of the fish to which the donor was hypersensitive. The donor suffered from urticaria when he ate fish.

Following the experiment of Prausnitz and Kustner, Walzer and Walzer¹³ discovered that a wheal is obtained at the site of local serum injection when the recipient eats fish. A hypersensitive area is not produced if the subject eats fish and is simultaneously injected with the serum of a fish-hypersensitive individual.

These experiments show quite clearly that the protein antigen may be liberated in the alimentary tract, be absorbed, and circulate in the blood of the normal as well as the hypersensitive individual.

Prausnitz and Kustner showed that a person hypersensitive to a substance or a group of substances can be made hypersensitive to a new one by the intradermal or subcutaneous injection of a new substance. This is true only of persons who have suffered, or who have blood relatives who have suffered, from some type of hypersensitiveness such as eczema, hives, angioneurotic edema, asthma, hay fever, hyperesthetic rhinitis, or certain types of cough.

Certain individuals have hypersensitive mucous membranes. In such persons, simple contact of

the protein antigen with the membrane will lead to the immediate swelling of the membrane. Cows' milk will, in certain infants, produce a profound swelling of the mouth the first time the milk is fed. One of my patients who is hypersensitive to nuts suffers from a swollen mouth, a burning sensation in the mouth, throat, esophagus and stomach, followed by vomiting and a severe diarrhea whenever she eats them. The swelling and vomiting may persist for twenty-four hours. From this we may conclude that the entire gastro-intestinal tract is hypersensitive in certain individuals.

The tissue of an individual who is afflicted with a hypersensitive idiosyncrasy is different from normal tissue. When tissue comes in contact with a soluble protein antigen the cell produces antibodies that are capable of specifically activating even normal tissue to the antigen. Some, or possibly all, of this antibody is thrown out into the blood stream and may be demonstrated in the serum by biological tests. When the antigen is above the threshold of reaction the hypersensitive tissue will then react with the protein antigen in such a way that a swelling of the tissue occurs. The threshold of reaction depends upon the amount of the antibody present. This is demonstrated by the fact¹⁴ that the serum of patients who have obtained relief after treatment—subcutaneous or intradermal—contains more of the antibody.

Normal tissue that has been sensitized by bringing it in contact with serum that contains the allergic antibody reacts only once because this is a passive sensitization. In the normal tissue the allergic antibody is inactivated when the tissue reacts with the protein antigen.

When the hypersensitive cells are contained in a non-absorbent membrane, such as the skin, the antigen may be brought to it via the blood stream and tissue fluids or by breaks in the continuity of the protecting surface.

A comparatively small hypersensitive area may produce allergic antibodies which find their way into the blood stream to be removed by other cells, sensitizing them. The secondarily sensitized cells react when the absorbed antigen has accumulated above the threshold of reaction.

Sensitization in humans is not merely a sensitization of one area, but the whole body is sensitized, there being a wide range of variation as to the degree of sensitization of the different tissues. The symptoms produced when the body receives an overwhelming dose of a protein to which it is hypersensitive are manifold, depending upon the tissue which has the lowest threshold of reaction, and should several tissues have the same threshold of reaction we shall have different groups of the allergic symptoms present at the same time. The

following outline gives the symptoms, which are certainly or probably of allergic origin, that are manifested when any one of these systems is most strongly affected:

Cutaneous: urticaria; true infantile eczema; certain forms of eczema occurring after infancy; certain forms of pruritis.

Subcutaneous: angioneurotic edema.

Respiratory: paroxysmal rhinitis, of which hay fever is one of the commonest examples; asthma.

Gastro-intestinal: certain forms of vomiting and diarrhea; cyclical vomiting.

Nervous: migraine; some types of epilepsy.

Articular: paroxysmal hydrarthrosis.

When a person is in the allergic state—that is, one or more of the above symptoms are present—the following findings are quite constant,¹⁵ depending upon the stage of the attack:

PRE-PAROXYSMAL AND PAROXYSMAL

1. A rise in the amino acid content in the blood (normal 4.0 to 6.5 milligrams present).
2. A fall in the chloride content, particularly of the corpuscles.
3. A diminution or absence of chlorides in the urine during the paroxysmal period.
4. A rise in the urinary excretion of ammonia.

POST-PAROXYSMAL

1. Amino acids in the blood come to normal.
2. Blood chloride may rise above normal for a short time.
3. Urinary chloride increases at first and then subsides to normal.
4. Ammonia in the urine is markedly increased, even to the point of making the urine alkaline.

Griep and McElroy¹⁵ reported a series of allergic patients, 75 per cent of which had a hypoacidity, achlorhydria or achylia. The hypochlorhydria patients had a free acidity of 10 or less. Barber and Oriel¹⁴ are of the opinion that there is disturbance of hepatic function in allergic patients, at least when they are having active symptoms. They base this opinion on the positive biphasic van den Berg reaction; that is, the reaction which accompanies toxic jaundice being the opposite of the obstructive jaundice. They also suggest that the increase in the blood amino acids and decrease in the blood chlorides may be associated to some degree with liver damage.

RECAPITULATION

The general opinion among immunologists is that the allergic symptoms are related to anaphylaxis as seen experimentally in animals. However, it is seen that Wells' six requirements for anaphylaxis are fulfilled only in part; there is some objection to the idea that sensitization occurs via ab-

sorption from the gastro-intestinal tract; however there is really so little known about proteins and anaphylaxis that as our knowledge increases these objections may be over-ruled.

In addition to this, the blood and urine findings of animals or patients in anaphylactic shock are similar to those of patients in an active allergic state. In other words, while a few maintain that allergy and anaphylaxis are not even kindred, there is enough evidence at hand to show that the two phenomena are sufficiently related to lead one to believe that scientific treatment for one should be equally beneficial for the other.

Desensitization can be obtained in two ways:

1. *Antianaphylactic method.* Small graded doses of antigen are given over a protracted time interval. A large amount of free antibody is engendered in this way. This prevents cellular reaction with the antigen and, therefore, prevents shock.

2. *Shock.* The administration of 1 dose of antigen sufficient to combine with the antibodies fixed in the tissue, produces a shock and leads to a complete desensitization. The distressing symptoms concomitant with this shock can be avoided by the simultaneous injection of adrenalin or hypertonic salt solution. The desensitization is just as effective when these measures are taken.

The practical application of these findings is seen in the treatment of allergic manifestations that occur when patients are desensitized to pollens, epidermal proteins and bacteria. Adrenalin and atropin are the common remedies to alleviate the acute symptoms. However, when the portal of entry of the offending proteins is in the gastro-intestinal or respiratory tract, the simplest and most satisfactory form of treatment is to avoid contact with the proteins to which the patient is hypersensitive. The protein that is responsible for the symptoms is determined by the scratch tests or by intradermal tests.

We use the so-called scratch test of Blackley¹⁶ as popularized by Walker, testing the patient with twenty-four different proteins at a time until we have covered all the proteins with which he may come in contact in his environment; this varies from approximately two to four hundred different proteins. The testing requires a good deal of experience, both in making the tests and reading the results; in addition the outlay for four hundred different proteins is more than the average physician chooses to make. Also, patients' environments differ to the degree that it frequently requires the making of special extracts for each individual patient. After a complete study one is able to decide whether or not to desensitize by injections of the proteins to which the patient is hypersensitive, or

advise that the patient remain in an environment free from the offending proteins. He may have to eliminate the foods from his diet, the epidermal proteins from his wearing apparel and furnishings of his home, and live in an atmosphere in which none of the offensive proteins is present. When the patient's livelihood is such that it becomes impossible or practically impossible for him to eliminate certain proteins such as those derived from bacteria, pollen or animal danders, one is then forced to attempt desensitization by injections.

Desensitization is most effective when the course of treatment is not complicated by the presence of the offending protein in the environment. The patient is temporarily placed in an environment free from the protein. Graded injections are then begun and continued until a high degree of immunity is established. The patient can now be returned to his normal environment without catastrophe. Desensitizations carried out in this way may be effective for four years.

Patients sensitive to pollens can obtain relief in one of two ways. They can either go where the offending pollen does not exist or they can be desensitized. I have used two methods of desensitization, namely the co-seasonal intradermal method or the protracted pre-seasonal subcutaneous method.

The symptoms developed by a typical hay fever patient are directly proportional to the amount of pollen in the air. Such patients are benefited by either the subcutaneous or the intradermal treatment. Many patients, however, give a typical hay fever history; but they are actually atypical: i. e., they are sensitive to a large number of food or other proteins and not so sensitive to the pollen proteins. The contact with pollen proteins produces seasonal symptoms. Such patients are not benefited by treatment with pollen extracts; their condition is usually aggravated by treatment. A complete study reveals the proteins to which they are most sensitive; a change in environment such that these most offending proteins are eliminated will lead to complete freedom from symptoms during the pollinating period without special treatment for the hay fever.

We have, since 1915, been immunizing with an extract from a mixture of pollens, those that are present in quantity in our community. Some of the patients were not sensitive to all of the pollens in this mixture. The introduction of the pollens to which these patients were not sensitive did not lead to sensitization as could be ascertained by repeated skin tests. Patients suffering from hypersensitiveness commonly develop new sensitizations. Frequently a patient suffers for years from spring hay fever and then becomes hypersensitive to the

fall pollens and subsequently suffers from both. Forty per cent of these patients ultimately develop asthma, first only seasonally but later it may be present all the year.

The character of the pollens that are in the air will, of course, depend upon the season and upon the weather. Up to the present time I have been obtaining information as to the character of the pollens by counting the pollen grains collected on coated glass slides located in various sections of the city and by observing our prairie flora. This type of study is properly a function of the health department. Such information can now be obtained for the Chicago district from the Chicago Health Department. This type of treatment would be greatly facilitated if similar cooperation could be obtained from health departments throughout the country.

Ninety-five per cent of our patients have obtained enough relief from a combination of the pre-seasonal and co-seasonal treatments so that they can carry on their work without interruption. There are about 5 per cent of all patients as seen by us who are so sensitive that they do not tolerate the injection, even in extremely minute quantities, of any protein to which they are sensitive, without the production of severe general symptoms. It is doing harm instead of good to attempt to treat such patients by injections. A few get some transient relief from intradermal injections of small quantities of pollens to which they are sensitive, but even with this type of treatment extreme caution must be used in spacing the time intervals between doses. Large doses are dangerous.

Patients that are being treated by the pre-seasonal method are subjected to co-seasonal treatment¹⁷ with the pollen which is in the air as the season progresses, if they have symptoms.

Another type of treatment employed during the past few years is the non-specific injection of peptone, inorganic and organic compounds. Vallery-Radot¹⁸ reports so favorably the use of peptone in 30 or 50 per cent solutions that he recommended it to replace specific pollen therapy. Schiff¹⁹ confirms this work, while Ramirez²⁰ was quite unsuccessful. I used it during the hay fever season of 1927. The first peptone (about 10 grams of a purified product obtained from Armour's Research Laboratories) confirmed both Vallery-Radot and Schiff, but when the small quantity was exhausted the next I used (obtained on the open market) proved to be entirely unsatisfactory. After attempting to remove the toxic principle from commercial peptone without success, I switched to parathormone as a non-specific. This, in the treatment of angio-neurotic edema, hives and some types of asthma and hay fever, was as successful

as the first peptone I used and as it could be obtained in a standardized form, I discontinued the use of peptone altogether. When one reviews the method of making peptone it is readily seen that no two batches will be the same as far as their non-specific allergic reactions are concerned. The use of parathormone in the treatment of eczema, asthma and hay fever, Bessemer's Purigo (asthma and itching complicated with gastro-intestinal symptoms of allergic origin) hyperesthetic rhinitis, and giant urticaria and angio-neurotic edema, is illustrated in the five case reports detailed at the end of the article.

From the use of parathormone during the past season it appears safe to say that where there is a small quantity of pollen the treatment is quite successful, whereas when the pollens are at their height, as in the peak of the season in Chicago, the parathormone therapy is not to be compared with specific pollen therapy. In some cases of food and epidermal allergy, parathormone therapy gives excellent temporary relief.

What is to be done for the patients who give no skin reactions but suffer from purely allergic symptoms? In case desensitization by injection is not indicated, the patients can be most successfully treated by placing them on a low protein diet, permitting only that quantity of complete protein necessary for normal metabolism. Milk or milk products are employed when the patient does not show an idiosyncrasy for these substances: should the milk not be advisable we look to vegetables such as soybeans for our complete proteins; the Japanese soybean is, I believe, more palatable than the common navy bean. We keep the fat as low as possible, still permitting fats rich in vitamins which are required to make our meals ordinarily palatable. This leaves the carbohydrates as a source of calories. Carbohydrates, however, are to be derived from a liberal quantity of leafy vegetables and tubers. The advice of liberal quantities of sodium chloride in seasoning foods is given to maintain the blood chloride; hydrochloric acid is prescribed for the achylia, achlorhydria or hypochlorhydria as the case may be; ammonia is given with the assumption that the excretion of the ammonia is a protective mechanism. On this dietary regimen the amino acids of the blood are brought to a minimum, the chlorides are maintained in excess so as to prevent the loss of blood chloride, the hydrochloric acid of the digestive juice is furnished and the ammonia excretion of the kidney is maintained by the addition of ammonia to the diet; this type of management is that recommended by Barber and Oriel and I have tried it with success on a number of patients who suffer from symptoms of the allergic syndrome.

This paper has dealt largely with a description of conditions involving cutaneous, subcutaneous, respiratory and gastro-intestinal phases of hypersensitiveness. As for the nervous and articular, I have only mentioned them as belonging in this group. With excessive immunization in the treatment of hay fever, we have produced hydrarthrosis; and in the acquired condition our attempts to give relief have been far from encouraging; injections of adrenalin, in the cases seen by us, have always altered the course and degree of the swellings.

Migraine patients may not give positive skin tests. In their treatment my object is a dietary regimen which will keep the blood amino acids to a minimum and the blood chlorides normal, as the latter may tend to be low. This regimen is also a good one to follow in hyperesthetic rhinitis, especially in those patients whose skin is insensitive to protein tests. Some of these patients do better when calcium lactate and ammonia are given along with the dietary regimen.

In treating patients by injection of either specific antigenic or non-specific agents, it is found that some patients respond best to the subcutaneous method, others to the intradermal; at present there is no criteria by which we can differentiate them. It is our practice to try the subcutaneous method first and if good results are not obtained, it is perfectly safe to switch to the intradermal method, thereby increasing one's chances of obtaining greater relief for the patient. In either method the antibodies of the blood, demonstrable by the Prausnitz and Kustner technic, are usually increased when a good result is obtained.

Treatment of these symptoms which are due to protein hypersensitiveness has been more or less confined to specialists. When one remembers that about one per cent of the population suffers from hay fever, which is but one of these several manifestations, the condition is not one to be confined to specialists, but all physicians should take an active part in its treatment. In order to be successful in the treatment of hay fever alone, a greater equipment of information is needed than most physicians can afford to have; this part should be furnished by the health departments. That is, the health departments should know at all times just what pollens are in the air and in what quantities; this information should be made available to all physicians; when this is done the treatment of hay fever will be simplified to the point that the specialist will be needed in the treatment of atypical cases only.

CONCLUSIONS

1. Foreign protein reactions in the human have much in common with anaphylactic reactions observed in experimental animals.

2. Urticaria and asthma have been transferred passively to normal individuals.

3. The allergic antibody is capable of specifically activating normal tissue.

4. The foreign protein which acts as the antigen for producing urticaria has been demonstrated to pass through the wall of the gastro-intestinal tract into the blood stream of normal individuals.

5. When the quantity of the protein antigen reaching the sensitized tissue either by the blood or by local contact, is above the threshold of reaction, the hypersensitive tissue reacts so that a swelling occurs; the threshold of reaction depends upon the amount of the antibody present in the tissue.

6. The symptoms of protein sensitization are dependent upon the systems which have the lowest threshold of reaction and which are, therefore, the ones that react first. Systems affected are: cutaneous, subcutaneous, respiratory, gastro-intestinal, nervous and articular.

7. In some patients, while active symptoms are present, there is a disturbance of hepatic function; in such patients sparing the liver may relieve the symptoms.

8. The treatment by specific immunization is successful in those patients who tolerate large enough doses to produce that quantity of antibody which will suppress the allergic reaction.

9. Intradermal injection is a method of treatment which enables us to increase the antibody in the blood with a minimum of antigen. A high percentage of relief is obtained with combined subcutaneous and intradermal treatment.

10. Food sensitiveness sometimes causes seasonal symptoms due to the additional irritation produced by the pollens. These patients have symptoms only when they are subjected to this dual irritation. A removal of the chief irritant (food) leads to a cessation of symptoms.

11. From five to ten per cent of all cases cannot tolerate the injection of minute quantities of foreign proteins to which they are hypersensitive. There are all degrees of tolerance so that the degree of relief is bound to vary.

12. Urticaria and angio-neurotic edema and certain types of eczema are treated very successfully by the subcutaneous injection of parathormone in graded doses. Additional calcium with a simplified diet may make it more effective.

13. In the treatment of hay fever, parathormone is of value when administered intradermally, providing the pollen content of the air is relatively low.

14. Patients afflicted with migraine and hyperesthetic rhinitis, but who do not give positive skin tests, are relieved of symptoms when blood chlor-

ides are increased and blood amino acids are held at a minimum.

15. All types of successful treatment by protein injection increase the antibody content of the blood.

CASE REPORTS

CASE 1: *Eczema*. D. B. W., woman, age twenty-nine. Eczema was first present at age of three to nine months; no further attacks until eight years of age; regular attacks, since then, that last from December to March. Fall hay fever each season since age of five. Remained in Chicago until fourteen years of age. Summers have been spent in Colorado since then; no hay fever in Colorado. Three years ago in January patient was subjected to a complete check up and eczema cleared when lettuce and chicken were eliminated from the diet. Patient was completely free until a year and a half later in August, when eczema returned after an attack of hay fever; patient was re-tested and obtained relief by cooperating with the proper diet. Returned the following March with recurrence of the eczema. On re-testing there was no relief from cooperation with the diet so that parathormone was used. First injection March 22nd, 10 units; March 26th, 20 units; and March 28th, 20 units. Twenty-four hours after this third injection the skin became completely free of eczema and there was complete relief from itching. On April 2nd the eczema again showed signs of activity with small amount of itching. This was relieved with 10 units of parathormone, relief lasting two days. This treatment was then continued, 10 units every two days. A total of three hundred units was administered. Patient reported herself completely free.

CASE 2: *Asthma and Hay Fever*. T. G. J., man, age forty-one. Symptoms began at age of thirty-five; suffered from spring and fall hay fever, symptoms starting in early June. At thirty-seven, he had, in addition to this hay fever, an asthma which was present in the fall. At age of forty, asthma started the first of May and was present each night so that it was impossible for him to lie down or sleep. May 5, 1928, 1 unit of parathormone was administered intradermally; free of asthma until May 7th when he was given intradermal injections of one unit each. Asthma disappeared. The injection was repeated on May 8th, and again on the 9th; free of symptoms until May 23rd. This time he was suffering from an allergic cough which was relieved by two injections of one unit each, intradermally. Dose was repeated June 1st, again June 4th although he was free of symptoms; June 8th dose was repeated on account of the allergic cough, and again on June 11th although he was free. June 15th, one unit administered intradermally, and again the 18th because of a slight cough. June 22nd two injections of one unit each were administered although he was again free of symptoms. Free from symptoms until September 6th, at which time he was given two injections of one unit each. Repeated September 8th, slight hay fever on that date. No symptoms until September 10th when the hay fever returned and he was given another two injections of one unit each. September 12th patient was having quite severe hay fever and was given intradermal injection of extract of pollens of the weeds which were pollinating

in his neighborhood at that time. This was repeated on the 13th and patient was free of symptoms.

Here is a patient who had been suffering from hay fever and asthma throughout each summer since 1923 and 1925, and by the use of intradermal injections of parathormone was carried through the season with but little inconvenience, passing through the peak of the fall hay fever season without requiring treatment. When treatment was necessary, the parathormone as administered was not as effective in relieving symptoms as was the pollen extract.

CASE 3: *Giant Urticaria and Angio-neurotic Edema*. Woman, age twenty-seven. Migraine headaches for six years; intravenous injections of peptone had been given to remove the headaches. This led to urticaria and angio-neurotic edema. First seen by us ten weeks after onset of urticaria and angio-neurotic edema; 200 protein sensitization tests were made, practically all of them being negative. January 16th, 20 units of parathormone were given subcutaneously. Dose repeated January 20th and 24th. The angio-neurotic swellings disappeared after the first injection and did not recur; no hives on the body except small ones on the hands. After the third injection these hives on the hands disappeared and there has been no recurrence of the hives nor of the angio-neurotic edema.

CASE 4: *Bessemers Purigo* (asthma and itching of skin complicated by gastro-intestinal symptoms of allergic origin). Mrs. L. H. M., age forty. Suffered for fifteen years from gastro-intestinal symptoms which were considered by the attending physicians as arising from gall-bladder pathology. Frequent diarrhea. In 1926 cholecystectomy was performed and normal gall-bladder removed. Patient convalesced in California and developed asthma for the first time. Severe itching of the skin of the whole body accompanied the asthma; skin appeared perfectly normal. Upon returning to Chicago the itching was present during the winter and the asthma during the spring and fall hay fever seasons. Patient was admitted to our service in 1928, tested to 300 proteins and placed on a diet eliminating the proteins which gave positive reactions. April 28th, one unit of parathormone was given intradermally. Dose repeated on May 2nd and 5th. No asthma or itching after the first injection. On June 7th, patient was still free but as we were in the peak of the spring hay fever season two injections of one unit each were given intradermally. On June 14th, one unit intradermally was given because of a tendency toward asthma the preceding night. On June 2nd, dietary management was instituted and has been continued up to date, there being no hay fever, asthma, nor itching through the peak of the fall hay fever season.

CASE 5: *Hyperesthetic Rhinitis*. Miss A. D., age twenty. Had never had any allergic symptoms until coming to Chicago in 1927. Upon arriving in the city she developed a typical attack of hyperesthetic rhinitis which has persisted, there rarely being a day of complete freedom. One hundred fifty protein sensitization tests were made; patient placed on a diet based upon these tests without any alteration in the symptoms. April 4th, 10 units of parathormone were given subcutaneously; April 8th, 20 units given subcutaneously; dose was repeated April 11th, 15th, 18th and 22nd. After the second injection on April

8th, the amount of sneezing was markedly decreased. After that of the 15th patient was completely free of symptoms for two days. Since the last injection on the 22nd there has been no return of symptoms.

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ROUTINE EXAMINATION OF THE PROSTATE, AS A FOCUS OF INFECTION*

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The most recent development in the study of disease of the prostate gland has been in relation to focal infection. That is, whether or not we can consider infection in the prostate as a definite focus, giving rise to secondary symptoms, referable to other parts of the body. A systematic study has been carried out at various clinics to determine the character of the gland itself, and the findings in the prostatic secretion. Infection in the prostate has been thought of, in much the same manner, as infection in the tonsil, in relation to the possibility of this being a source of focal infection and responsible for systemic disease.

When we consider the histology of the prostate, the possibility of latent infection in the gland is evident. Branching tubular glands surrounded by smooth muscle fibers and connective tissue, make up the minute anatomy. Deep compound glands,

interlacing in every direction, certainly offer a suitable media for bacteria. The relative amount of glandular tissue to the musculature and surrounding structures, is about as five to one. It is fair to assume that this type of organ may easily harbor chronic infection.

Physiologically, the functions of the prostate are, first, a secreting gland, second, a muscular organ, and third, an organ of special function represented by the great variety of nerve structures within its substance. Because of these many different functions, a great variety of symptoms may be produced by infection within the gland, in addition to symptoms of general systemic conditions, which may be produced secondarily by the infection, and which have no relation to the function of the gland.

According to Von Lackum, "There seem to be three probable mechanisms by which the infected prostate produces general symptoms; the infection may be carried by the blood, the focal toxins may be responsible, or the distant symptoms may be of reflex origin. Bacteriologically, focal infection in the prostate is essentially the same as that in teeth and tonsils. A comparative bacteriologic study of various foci, in the absence of any history of previous urethritis, has frequently shown the same strain of streptococci in periapical lesions, tonsils and prostate. Cultures of expressed prostatic secretions, after thorough irrigation of the bladder, urethra, and external urethral orifice, in 405 cases at the Mayo clinic, showed sterile cultures in 35 per cent, streptococci in 36 per cent, staphylococci in 22 per cent, B. Coli in 3 per cent and various form of streptobacilli and micrococci in 4 per cent. The degree of prostatitis has been no criterion of the virulence of infection, as virulent streptococci have been cultured from the prostate, when it shows very mild infection. A marked disproportion in the size of many prostate glands, as contrasted with the degree of infection, was noted. Often a small apparently insignificant prostate was found to carry the highest degree of infection. This shows the diagnostic importance of analyzing the prostatic secretions."

Routine examination of the prostate, for focal infection, has been recently carried out on a series of 420 patients who have gone through the Polyclinic at Des Moines. Of this number, 60 or 14 per cent showed definite pathological findings in the prostate gland and in the prostatic secretion. The prostate was examined and found to be of two distinct types: the soft, smooth, round, regular gland, and the hard, broad, irregular, flat, gland. The irregular, hard type is usually associated with a previous history of gonorrhea, with direct infection from the urethra, while the regular, soft, type

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is usually the result of hematogenous infection, with other foci of infection in the teeth, tonsils, or sinuses.

After palpation of the gland, massage was carried out and the prostatic secretion obtained for microscopic examination. If no secretion was obtained and the gland seemed pathological, provocative treatment was carried out. In certain cases of latent infection, the ducts of the prostatic glands will seal over and no secretion will be obtained by massage. In these cases repeated massage, dilatation of the urethra or injection of one-fourth of 1 per cent silver nitrate into the posterior urethra will open up the ducts and secretion can be obtained. In the sixty cases studied, the amount of pus varied and was graded accordingly: grade I, one to twenty-five cells, per high power field; grade II, twenty-five to fifty cells; grade III, the field three-fourths full, and grade IV, the field full. Data was compiled on the type of gland, the amount of pus in the secretion, findings in the urine, history of gonorrhea, associated disease of the tonsils or teeth and the main complaints of the patient upon admission.

In thirty-six cases the gland was irregular, broad, flat and hard.

In twenty-four cases the gland was regular, smooth, round, and soft.

In eleven cases the pus was grade I.

In thirty-four cases the pus was grade II.

In twelve cases the pus was grade III.

In three cases the pus was grade IV.

The grade II, that is, twenty-five to fifty cells per field predominated. Of these thirty-four cases, twenty-one were of the hard, irregular type of gland, and thirteen, of the soft, regular type.

Associated infection in the tonsils or teeth was present in twenty-one cases and of this number, all but two, were of the soft, regular, type, bearing out the previous statement, that this type is usually hematogenous in origin from infected tonsils and is not associated with gonorrhea. A past history of gonorrhea was obtained in twenty-six cases and of this number, all but six were of the hard, irregular type, bearing out the statement that this type is usually due to direct infection from the urethra, associated with a previous attack of gonorrhea.

The urine was clear in all but twelve cases out of sixty, thus showing that pus in the urine is usually not found associated with prostatic focal infection. In the twelve cases showing pus in the urine, in no case was the pus higher than grade I.

In the sixty cases studied, which showed definite disease of the prostate, the complaints for which the patients were admitted varied considerably. By far, the great majority of cases, however, com-

plained of some form of arthritis, neuritis, myalgia, backache, and various neuromuscular pains. It was of interest to note that fourteen of the cases complained of functional gastric complaints and abdominal pains throughout the lower abdomen. These cases respond readily to treatment and are probably rather of reflex than of truly focal origin. Other complaints were constant headache, general malaise, and various sexual disorders.

The treatment of the infected prostate, consists of prostatic massage, intramuscular injections of aolan, dilatation of the posterior urethra and installation of one-fourth of one per cent of silver nitrate into the posterior urethra. Not all of these measures are necessary in every case.

Prostatic massage and the injection of aolan are used routinely every other day. Dilatation of the posterior urethra is carried out once in ten days when indicated. Installations of silver nitrate are used only occasionally. The usual course of treatment will extend over a period of from four to six weeks. A subsequent course of treatment is carried out when there is still pus in the secretion or no marked improvement in the patient.

Microscopic examinations of the secretions are made each week to determine the progress made in reducing the amount of pus. In the hematogenous type of infection, it is advisable to remove the focal infection in the teeth or tonsils, in addition to treating the prostate. In the urethral or direct type of infection, this is not so necessary, as far as the immediate improvement of the patient is concerned.

I will cite a few typical cases to illustrate the various points which have been discussed and the results of the treatment outlined.

CASE NO. I. A man age twenty-six, a salesman; entered the hospital January 11, 1928, complaining of a dull pain across the back, headache and a feeling of malaise. He had previously been very active but for the past two months, had felt exhausted and unable to carry on his work. There were no symptoms referable to the genito-urinary tract. The urine was clear. Leucocytes 6,500. The Kahn test was negative. On examination of the prostate it was found to be tender, broad, flat, irregular, nodular and hard. The secretion showed pus III, that is, the microscopic field three-fourths full. There was no infection in the tonsils or teeth. The patient gave a history of an attack of gonorrhea ten years before. Systematic massage and injections of aolan were carried out over a period of six weeks. The patient showed marked improvement. The pain in the back, and headaches disappeared and with the decrease in the amount of pus in the secretion, the patient again became active and was able to carry on his work. This case illustrates focal infection in the prostate in which the gland is of the hard, nodular type, with a previous history of gonorrhea. The response to treatment was rapid and there has been no recurrence of symptoms.

CASE No. II. A man age thirty-eight; contractor; admitted to the hospital December 19, 1927, complaining of pain in the left hip and left knee. Neuro-muscular pains had been present in this region for about two years, and so incapacitated the patient that he was unable to work. He had a tonsillectomy in December, 1926, without relief. The urine was clear. Leucocytes 8,700. The Kahn test was negative. There was no history of bladder or kidney disease excepting an occasional nocturia. There was no history of chills or fever. The patient had gonorrhea nineteen years ago. On examining the prostate, it was found to be of the irregular, hard type, and not tender. The secretion showed pus grade II, that is 40 cells to the field. Under the routine treatment as outlined, the patient made a good recovery in five weeks. The pain in the left hip and knee entirely disappeared. This case is interesting because of the fact that in December, 1926, at the time of the tonsillectomy, the possibility of a focus of infection in the prostate was overlooked, and it was not until this infection was discovered and treated that the patient experienced any relief. There has been no recurrence up to the present time.

CASE No. III. A railroad car inspector, age fifty-seven; entered the hospital January 19, 1928, complaining of neuritis which was located in the left arm. The pain was first noticed about one year ago and at the present time bothers him day and night to such an extent that he is unable to work and cannot sleep. The patient had a tonsillectomy fifteen years ago and there is no recurrence of tonsil tissue. He gave a history of an attack of gonorrhea fifteen years ago. There were no genito-urinary symptoms on admission. On examination, the prostate was of the tender, hard, irregular type, and contained in the secretion pus grade II, that is, 35 cells to the field. The urine was clear. Leucocytes 10,800. The Kahn test was negative. The patient also had marked infection in the teeth and all diseased teeth were removed. There was no change, however, in the condition of the patient, until massage of the prostate, injections of aolan and dilatation of the urethra were carried out. The pain then became less in amount and after six weeks, the pus in the secretion was much less but had not entirely disappeared. The patient was given a rest from the treatment for one month and during this time, the pain returned and the patient again came in for examination. Pus in the secretion was again grade II and another course of treatment was started. The patient has now fully recovered.

CASE No. IV. A man age thirty-eight, painter; admitted to our service March 31, 1928, complaining of pain in the epigastrium. Symptoms date back about nine months and have become progressively worse. The patient complained of a burning sensation in the stomach, bloating, belching of gas, sense of pressure and tenderness in the epigastrium and occasional nausea. There were no urinary symptoms. The urine was clear. No history of gonorrhea. Leucocytes 11,200. Kahn test was negative. The patient gave a history of occasional attacks of tonsillitis and on examination, the tonsils were found to be infected. In addition to this, the patient had infection in the teeth and a smear was positive for Vincent's Angina. On examination, the prostate was found to be tender, smooth, round, larger than normal and soft. The secretion showed

pus II, 40 cells to the field. The patient was advised to have all foci of infection removed. This was done and treatments were at once started to clear up the prostatic infection. After six weeks the patient's gastric complaints had practically disappeared. This case is of interest in that it illustrates the hematogenous type of infection with foci of infection in the prostate, tonsils, and teeth. As has been previously stated this type of case with predominant gastric symptoms and improvement following treatment of the prostate, is probably of reflex, rather than of true focal origin.

CASE No. V. A man, age fifty; salesman; admitted to hospital February 28, 1928, complaining of impotency. His general health was good, with the exception of some distress in the region of the epigastrium. He gave a history of luetic infection twenty-five years ago and gonorrheal infection fifteen years ago. There was no infection in the tonsils or teeth. The urinary findings were negative. Leucocytes 10,000. Kahn test negative. On examination, the prostate was found to be irregular, hard, nodular and quite tender. After massage there was no secretion. Because of the fact that it seemed that there must be infection in the prostate, the urethra was dilated. This was followed by further massage and prostatic secretion was obtained which contained pus III that is, the field three-fourths full. Massage and aolan were used every other day for four weeks. At the end of this time the patient had no complaints of distress in the abdomen and stated that he was regaining his sexual power. This case is of interest because of the fact that there was no secretion present at the time of the first examination and that it was necessary to use provocative treatment. It illustrates the importance of this measure when focal infection in the prostate is thought to be present.

CONCLUSIONS

Infection in the prostate does occur as focal infection more commonly than has been heretofore supposed.

A routine examination of the prostate should be carried out on all patients who present themselves for general examination.

Prostatic massage and microscopic examination of the prostatic secretion to determine the presence of pus, can easily be done by the general practitioner.

There are two distinct types of infection, the direct infection associated with a past history of gonorrhea and the hematogenous infection associated with other foci of infection in the body, such as diseased tonsils and teeth.

Pus in the urine is not usually found in association with focal prostatitis.

The results of proper treatment have been encouraging. While it is probably not possible to remove all of the infection permanently, the improvement in the condition of the patient, justifies the procedure.

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THE PRESENT STATUS OF PREVENTION OF SCARLET FEVER BY IMMUNIZATION*

(A Review of the Literature)

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The history of scarlet fever dates back to the earliest of manuscripts. These manuscripts contain descriptions of the acute diseases accompanied by rashes which at first were very much confused. Smallpox, because of its characteristic pustular lesion, was the first to be differentiated. Sydenham in the seventeenth century was the first to clearly differentiate between measles and scarlet fever. Various attempts to vaccinate against scarlet fever had been made and particularly so after Jenner's vaccination against smallpox had been developed. It, however, remained for the science of bacteriology to increase our knowledge regarding scarlet fever and a number of different organisms were found to be present in a case of scarlet fever. Due to the fact that these same organisms were found to be present in puerperal sepsis, lymphangitis and erysipelas, there was considerable confusion. There was no way of differentiating the various strains of streptococci and no one succeeded in definitely demonstrating the streptococci as the cause of scarlet fever. Nevertheless, as long ago as 1895 Marmarek and again in 1902 Moses of Vienna prepared a scarlet fever antitoxin which yielded some good results. In 1907 Gabrichewsky of Moscow made a vaccine which was somewhat beneficial. Nothing definite was known until Drs. Dick and Dick proved scientifically the cause of scarlet fever. It is true that Dochez slightly antedated this but their product made in an entirely different manner has not been generally accepted.

In 1923 Drs. Dick and Dick were able to demonstrate a strain of hemolytic streptococci as the cause of scarlet fever. They found that the streptococcus does not invade the blood stream but remains as a local infection in the throat which causes angina of the throat and in addition produces a toxin that is absorbed and carried to all parts of the body. It was demonstrated that this toxin is the cause of the nausea, vomiting, fever and the rash. They were able to produce these symptoms by injecting the toxin into susceptible individuals. The discovery of the specific toxin has enabled Dick and Dick to develop:

1. A skin test.
2. A method of immunizing individuals against scarlet fever.
3. An antitoxin specific for scarlet fever.
4. A method of recognizing scarlet fever streptococci.

THE DICK TEST

It should be mentioned here that Drs. Dick and Dick do not claim any value from the Dick test in diagnosing a case of scarlet fever. It is merely a test for susceptibility. The Dick test is different from the Schick test in that it is more transient and must be observed twenty to twenty-four hours after performing the test. It will disappear in thirty-six to forty hours. The positive reaction may vary from a faint pink to an intense red and would be called positive where a Schick test for diphtheria would be called negative. Unless one has had a great deal of experience with the Dick test, mistakes in calling a positive test a negative test are apt to be made. Park of the New York Health Department feels that the Dick test is not quite as reliable as the Schick test at the present stage of development.

The Dick test consists of the injection of 0.1 c.c. of scarlet fever toxin just under the skin. It is important that alcohol or iodine should not be used for preparation. The inner surface of the forearm is the area of choice upon which the test should be made. Readings should be made in twenty to twenty-four hours. The Dick test should not be confused with the Carlton-Schultz phenomenon which consists of the injection of 0.2 c.c. of scarlet fever antitoxin under the skin. This is a diagnostic test and blanching of the skin results if the patient has scarlet fever.

IMMUNIZATION

Speaking of immunization, we have two forms, namely, active immunization and passive immunization. With passive immunization the protective substances are furnished to the individual "ready made" so to speak. His cells have no part in their production and the immune bodies must be introduced into the circulation artificially. On the other hand active immunization may be defined as developing the resistance of the body to a disease by reason of productive substances having been developed in the body as a result of a previous attack of the disease in question or artificial inoculation with the causative micro-organisms either in its original state or in some modified form.

Passive Immunization—Scarlet fever antitoxin has been developed for this purpose but most authorities have discarded its use because the immunity is of too short duration (eight to ten days) and the reactions are too severe for the value

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received. Campbell of Oshkosh, Wisconsin, Nobe-court of Paris and many others have come to this conclusion. Guy Kiefer of the Michigan State Board of Health reports: "Passive immunization in our experience does not last very long and is not of any value." It is generally conceded that in view of the possibility of severe sickness and the fact that the immunity does not last any longer than two or three weeks at the most, the prophylactic or passive immunization with antitoxin is of no value. The conclusion reached by Park of New York is that it is better to begin with active immunization immediately after the person has been exposed and the Dick test is positive and continue with this until the whole course has been given, if the individual does not contract the disease while being immunized. The contagiousness of scarlet fever is not great and with the value of active immunization definitely established, more lasting effects and results can be received from its use.

Active Immunization—In considering active immunization against scarlet fever, we have at hand three methods, namely, (1) the ricinoleated brought out by Larson; (2) the toxin of the Dicks, and (3) the Dochez toxin. The latter two differ very little except that the Dochez antigen contains toxin and organisms while the Dick contains toxin only. Dochez's toxin and antitoxin have not been accepted due to the fact that more serious cases of serum sickness have resulted from their use. This, some have explained, is due to the fact that Dochez manufactures his serum in an altogether different manner. He used live organisms in injecting the horse and an abscess often resulted which may cause the greater potency of the horse serum and the resultant sensitivity to the patient.

(1) *Ricinoleated Antigen*—Larson added sodium ricinoleate to the antigen for the purpose of lowering surface tension and with the lowered surface tension absorption would be slower and less reaction would result. The results of the use of the ricinoleated antigen, however, are not what one is led to believe from the circulars that accompany the sale of the material. Rodda of Minneapolis states that the Dick test did not become negative in as many cases with the Larson antigen as with the Dick antigen although there were no severe and very few mild reactions. This he states might be due to the fact that with the Larson antigen 3,000 to 5,000 units were injected while Dick recommends 90,000 units for the total immunizing dose. Campbell of Wisconsin states that it undoubtedly modifies the attack but does not greatly aid in the prevention of scarlet fever. It has been found that only about 60 per cent of those individuals found Dick positive became Dick negative

with the one dose of Larson's antigen. Thirty per cent or more of these become Dick positive before the year is up. French of Milwaukee carried on experiments with the Larson antigen and found that 32 per cent of those who had become Dick negative became Dick positive after a year. The duration of the immunity from the Larson antigen is too short and with its effectiveness rather limited its use is not recommended.

(2) *Dick Antigen*—The immunization as recommended by Dick and Dick consists of five injections given at weekly intervals as follows: First week—500 skin test doses of toxin; second week—2,000 skin test doses of toxin; third week—8,000 skin test doses of toxin; fourth week—25,000 skin test doses of toxin; fifth week—65,000 skin test doses of toxin. This is given subcutaneously at intervals of five to seven days. According to Dick the five injections may be counted on to immunize 90 per cent to the point of an entirely negative skin test and modify the susceptibility of the remainder. It is necessary to emphasize the fact that unless immunization is carried to the point of a negative skin test, complete protection from scarlet fever cannot be expected.

(a) *Reactions*—There is nearly always a local reaction which consists of redness and more or less swelling. This should subside in twenty to forty-eight hours. No necrosis, abscess or sloughs have been experienced by the Dicks or others who have used the toxin. In regard to general reactions, there seems to be a variation of opinion. The Dicks claim a very small per cent and none of these serious. General reactions consist usually of nausea, sweating, general malaise, rise in temperature and occasionally a scarlatinal rash, which by some is taken as a proof of the specificity of the toxin. The general symptoms usually disappear in twenty-four to forty-eight hours. Quoting Dick, "As a rule the reactions are usually about as severe and as frequent as those that follow the use of typhoid vaccine or toxin-antitoxin". Murphy of Minneapolis feels that the percentage of reactions is so small (21 to 304 in his series) that it should not be a hindrance. Others have not been so enthusiastic and have had parents refuse to have their children have any more shots due to the severe reactions. These results were obtained as a rule with the original Dick toxin which was not standardized as well as the later toxin. Because of the variable results there are many who join with Kiefer in making a plea for better standardization of the toxin so that better and more uniform results may be obtained.

(b) *Immunity*—The main object of any immunization is to give immunity as long as possible to a given disease. With scarlet fever the im-

munity with five injections seems to last two to three years. Toomey of Cleveland comes to the following conclusion. "In our series of cases the immunity conferred by active immunization against scarlet fever has lasted for eighteen months." Again Kiefer of Michigan has reported some very extensive observations. The work with scarlet fever was begun in three Michigan institutions in 1926. Skin tests were made and those positive immunized to a negative skin test and checked again from two to three years later. It was found that 28 to 32 per cent became Dick positive three years after they had been rendered Dick negative by immunization. This seems to agree with other observations. Dick himself claims nothing beyond two years.

DISCUSSION

Considering the facts as mentioned previously, the question naturally arises, how generally shall we employ scarlet fever immunization? The question is quite debated. Some men feel that we should assume an attitude of watchful waiting until more definite results and data can be obtained. The present epidemics have been very mild and the death rate is less than 1 in 100,000 persons. The five doses of toxin are also quite a disadvantage and particularly so when immunity can be obtained for no longer than two years. Due to this it is felt by many and expressed so by Park that immunization against scarlet fever should not be universally adopted in general practice. In group work as in school or state institutions there is no doubt but that it is of the greatest value. At present it is advised that it be given to all nurses who expect to be in contact with cases of scarlet fever and all children in state institutions where continual check by means of the Dick test with control of cases is possible. Also it is advised that it be used to check epidemics as they develop. When a case of scarlet fever develops in a family, all contacts should be tested by the Dick test and those who react positive be immunized immediately with the five graduated doses of toxin at intervals of five to seven days. The injection of 100,000 skin test doses of toxin in five injections will produce immunity in 90 per cent of cases for two years. While quite rapid it is not as lasting as is toxin-antitoxin in diphtheria. However, the value of it in an epidemic may be judged from the work carried out in our own state not over six months ago at Waterloo. The Scarlet Fever Committee was invited to come to Waterloo to control the epidemic that had developed there and the following facts were established.

1. The number of children out of a school population of 4,377 that were found susceptible—783.

2. The number of children who completed the five dose course of treatment—492.

3. The number of children who did not take the treatment but were susceptible—206.

4. The number of cases that developed scarlet fever in the 206 found susceptible but who refused treatment—11.

5. The number of cases of scarlet fever in the group immunized numbering 492—0.

Here is clearly demonstrated the value of the Dick toxin in five doses. As stated by Albert of the Iowa State Board of Health, "On the basis of the above figures, twenty-five cases of scarlet fever were prevented by active immunization".

CONCLUSIONS

1. Quarantine or isolation is still the paramount measure in the prevention of scarlet fever. Cases should not be discharged until it has been definitely established that all nasal and throat discharges have ceased. The status of the convalescent carrier has not been definitely established and more work on this phase is necessary before any definite conclusions can be arrived at.

2. The prophylactic value of the streptococcic antitoxin is not of such measure that its use is warranted due to the shortness of the immunity and the high percentage of reactions.

3. Knowing that 7 per cent of the individuals will develop nausea after the second or third dose of the Dick toxin; 4 per cent, nausea, vomiting and purging; 2 per cent, nausea, vomiting, purging and rash, we must realize that we have at hand a method of giving immunity against scarlet fever that is safe in its operation but that too much cannot be expected from it, for the immunity is good for only a period of two years at the most.

4. The wholesale adoption of immunization in general practice is not recommended at present. Immunization by Dick toxin in epidemics and in institutions is of undoubted value.

5. The value of ricinoleated toxin has not been proven and its use is not warranted.

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PEDIATRIC BULLETIN

In October of this year, the department of pediatrics of the Brownsville and East New York Hospital published the first number of a Pediatric Bulletin recently authorized by this institution. For the present, the publication will be issued semi-annually, although it is suggested that if sufficient material is available, the bulletin may appear more frequently.

The medical staffs of several of the larger hospitals sponsor the publication of a hospital bulletin. However, it is unique in our experience that a specialty in hospital practice should attempt such a publication.

In this opening number of the bulletin are found articles dealing with "Congenital Atresia of the Esophagus", "Splenectomy in Acute Thrombocytopenia Purpura Hemorrhagica", and "Meningococcus Meningitis". These original papers occupy about half the page space of the journal. The remaining pages are devoted to brief case presentations of outstanding or unusual cases treated in the pediatric division.

Inquiries and subscriptions may be directed to the editorial staff, located at 807 St. Marks ave., Brooklyn, New York.

CASE REPORT

CHRONIC ULCERATIVE COLITIS IN A CHILD*

JAMES E. DYSON, M.D. AND FRED MOORE, M.D.,
Des Moines

A form of ulcerative colitis known in adults has recently been found to occur in childhood. The characteristics of the disease are (1) severe ulcerative lesions which gradually involve the entire large intestine; (2) frequent hemorrhagic and purulent stools; (3) long course of the disease; (4) marked emaciation; (5) and lack of response to the usual medical treatment.

Etiology—Comparatively little has been written about this type of chronic colitis in children. The disease is entirely different from that common form of dysentery which is frequent in childhood and which runs an acute or subacute course. Undoubtedly cases of this disease have been overlooked and have not been differentiated from ordinary dysentery. Amebic and tuberculous diarrhea, and cases of typhoid with hemorrhagic stools, might well be mistaken for chronic ulcerative colitis; because of the similarity of the clinical manifestations. The etiology of these other types of intestinal infection is known and it is usually possible to find the causative organism. In this disease the stools and blood are not found to contain a constant microorganism which suggests a causative relationship. Whatever the type of microorganism that is present in the beginning of the disease, the infection becomes mixed as the course progresses, however, Doctor Bargen believes that a gram negative diplococcus is the cause.

In the beginning of the disease, the local process in the bowel consists of ulcers low in the rectum. This is characteristic. The lesions gradually extend to the sigmoid and finally to the entire colon. The mucous membrane of the intestine becomes inflamed, ulcers form and the wall of the gut becomes thickened. The mucous surface presents a glazed appearance. The ulcers vary from small size to widespread involvement of the mucosa with granular denudation. Much hemorrhage occurs, consisting of fresh blood and clots. In the radiogram there is seen marked narrowing of the lumen of the gut. There is no question in this disease about the disappearance of the normal sacculations or haustra. This is characteristic of the disease

*Read by Dr. Dyson at Des Moines Academy of Medicine, Annual Clinic, October 8, 1929.

and Kennedy states that the sacculations reappear after recovery. From the beginning of the ulcerations in the rectum, the process extends upward and finally involves the entire large intestine.

The history of emaciation accompanying a chronic bloody diarrhea gives clue to the diagnosis.

The disease begins acutely with diarrhea of a bloody mucous character. Tenesmus gradually appears. The appetite is always poor. The loss of



Barium enema showing lack of haustra in the colon.

blood is considerable. This with the rapid evacuation of incompletely digested food produces a marked loss of weight. The temperature is little elevated except when a complication occurs. The picture of the child is pitiable and the suffering is intense.

Examination with the protoscope reveals ulcers in the rectum and later in the sigmoid portion of the colon. All chronic cases should receive an anesthetic and be given a sigmoidoscopic examination. The radiogram is of value when the involvement of the colon is extensive. Deep ulcerations into the muscular coat probably obliterate the normal sacculations and the absence of these is noted by the roentgenologist. The colon is narrowed in diameter.

The long course of the disease easily separates it from dysentery. The usual duration is for many months, and in some cases for years.

CASE REPORT

Marvin K., age four and one-half years. July 8, 1929, complaint: Underweight, easily tired, diarrhea with blood, abdominal pain. The blood in the stool was bright red and followed every bowel movement. Bowel movements had been loose containing mucous and undigested food ever since eighteen months old—off and on. Treatment was acidophilus cubes.

Examination: Weight thirty-four pounds, height thirty-nine and one-half inches, temperature 99°. Malnourished, fatigued posture both lateral and antero-posterior scoliosis, flabby muscles. Heart normal area, systolic murmur at the apex not transmitted into the axillae (probably due to the anemia). Lungs negative, liver border one inch below the costal margin, spleen not palpable, glands not palpable, a general tenderness over the left abdomen.

Laboratory: Urine negative. W.B.C. 13,700, R.B.C. 3,470,000 Hgb. 42 per cent. VonPirquet negative. Wassermann negative. Stool negative for ova and parasites.

Next day (7-9-29): Proctoscopic examination under anaesthetic, revealed the typical brightly inflamed glarry rectal and sigmoid mucosa of ulcerative colitis. The surface appeared ready to drip blood, and did so when lightly touched with an applicator. Several areas appeared to be pus covered ulcerated lesions. We treated these inflamed ulcerated areas with 10 per cent silver nitrate and put him to bed on a diet of fat free buttermilk sweetened with saccharin and jello. We gave one teaspoon of mineral oil three times a day. He continued having fever of 100° to 102° and having blood and mucous stools.

Ten days later (7-19-29): We gave 2 ounces of 1 per cent silver nitrate solution as a retention enema leaving it in the lower bowel twenty minutes. There was considerable reaction to the treatment, temperature ran 102 to 103 for four days. He lost in weight down to twenty-nine and one-half pounds. He was having 10 to 12 loose mucous blood streaked stools daily. No tubercle bacilli, ova, or parasite were found in the stool, a gram negative diplo-bacillus (described by Bagen was isolated). Widal was negative for typhoid para-typhoid A and B. Urine was negative. W.B.C. 17,400. R.B.C. 3,150,000. Hgb. 55 per cent. X-ray of the colon showed a lack of normal sequestra or haustra. X-ray of lungs showed only para-bronchial infiltration.

At one month (8-9-29): Weight thirty-four pounds. No blood in the stools in five days. More comfortable. No tenesmus. Autogenous vaccine prepared from the diplo-bacillus found in the stool was given. One-tenth c.c. of the strength of three billion per c.c. This vaccine was given every three days increasing .1 c.c. each dose up to .8 c.c.

At two months (8-3-29): Weight thirty-six and one-fourth pounds—increase of six and three-fourths pounds. Hgb. 60 per cent—increase of 18 per cent. Comfortable, bowel movement semi-soft containing some mucous, no blood.

At three months: Weight thirty-nine and one-half pounds. Comfortable. Up and about. Diet: Buttermilk, rice, toast, egg, banana, cream of wheat, broth, scrapped beef, stewed carrots, cod liver oil. Bowel movement quite normal.

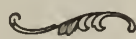
SUMMARY

1. Chronic ulcerative colitis may occur in a young child.

2. It is diagnosed by the clinical history, proctoscopic appearance of the lower bowel, x-ray of the colon, and microscopic examination of the stool.

3. It is treated by local application to the lower bowel, bed rest, diet high in protein and low in residue, and autogenous vaccine.

STATE HEALTH COMMISSIONER'S PAGE

 Henry Albert, M. D. 

PREVALENCE OF COMMUNICABLE DISEASES

The most prevalent communicable diseases for the past month have been scarlet fever, chickenpox, measles and smallpox in the order mentioned.

SCARLET FEVER AND DIPHTHERIA

Scarlet fever is on the increase. While the cases appear to be mild, still many days are being lost out of school. There has been a noticeable increase in diphtheria. The early stages of both of these diseases may simulate colds, tonsillitis or grippe. The occurrence of a single case of diphtheria in a community should be the signal for all children, nine months of age and older to be actively immunized against diphtheria with toxin-antitoxin, unless, of course, they have already been immunized. The passive protective immunization with antitoxin alone should be given only to susceptible (or probably susceptible) children who have actually been exposed. Some physicians who are in a position to watch cases carefully, prefer not to give antitoxin unless there are signs of beginning illness.

TYPHOID FEVER

An outbreak of typhoid fever in Clinton adds one more to the number that this department has been called upon to investigate since August first. Up to the time of going to press seventy-six cases had been reported with six deaths. This outbreak was milk-borne. The others were: seven cases with no death in Pocahontas, seven cases with two deaths in Greenfield. The outbreak in Pocahontas was food-borne, the others were milk-borne. Four milk-borne outbreaks of typhoid fever within four months calls attention to the value of pasteurization of milk and the need for efficient supervision of the process of handling milk. The process of pasteurization must be constantly watched to make certain that it is efficient. The outbreak at Clinton was traced to a pasteurized milk supply.

CHICKENPOX

This disease increased by almost 90 per cent over the number reported last month. This is another disease which accounts for much absenteeism from school.

MEASLES

Nine times as many cases of measles were reported this month as were reported in September. The importance of early detection and isolation should be kept in mind since it is in the early stages that measles is most communicable. The present increase is not to be regarded as a certain indication of the beginning of a general state-wide large scale epidemic of this disease, although we expect such to occur some time in 1930.

SMALLPOX

It looks as if the open season for smallpox was just ahead. An increased number of cases is being reported especially from Scott and Polk counties. There is an outbreak of smallpox just across the river from Clinton. The early symptoms of smallpox may be mistaken for those of grippe or severe colds. Wholesale vaccination will protect any community against smallpox.

PNEUMONIA

Increased incidence of pneumonia may be expected with the advent of the winter season. It attacks especially people who have had frequent colds, measles or scarlet fever and others whose resistance may be reduced.

ANTHRAX

One case of anthrax was reported. It developed in a Sioux City packing house employe. This disease is rare in Iowa, but with so many packing plants in the state, the occurrence of this condition should be kept in mind. Anti-anthrax serum is of value in the treatment of this disease.

UNDULANT FEVER

Fifteen cases of undulant Malta fever were reported during the past month. Physicians should keep in mind that any obscure fever may be undulant fever. Laboratory examination is of much assistance in making a diagnosis. Blood should be collected in Wassermann tubes and sent to the State Hygienic Laboratory at Iowa City, with a request that an agglutination test for undulant fever be made.

SYPHILIS IN PREGNANCY

One of the most serious medical and public health problems in the field of maternal hygiene, is the extent of the occurrence of syphilis in pregnancy. Evidence of its rather alarming prevalence is rapidly accumulating. Various investigators report that from 3 to 23 per cent of women seen at prenatal clinics have been found syphilitic. Williams of Johns Hopkins, reports that 34 per cent of 302 foetal and neonatal deaths were due to syphilis. The higher figures apply to colored persons. Experience has shown that effective treatment will very materially reduce the "disasters" of pregnancy.

Health departments—both state and local—should be so organized as to be able to inform laymen of these facts, so that the public will support the medical profession in the institution of preventive measures. Until your state and local health departments are organized to do such work, it would appear to be the duty of the medical profession to assume that responsibility—certainly as regards the persons of whom they are the "family physician".

BETTER REPORTING IMPORTANT

It is exceedingly desirable that every case of communicable disease be reported, first to the local Department of Health and by such in turn to the State Department of Health.

It is not possible to effectively control communicable diseases unless we have a knowledge of when, where and under what circumstances each case develops.

Many of our epidemics would not assume the proportions which they do, if there is prompt reporting and investigation of cases.

DR. FISHBEIN ON PREVENTIVE MEDICINE

In his recent address before the county society officers, Dr. Fishbein, editor of the *Journal A. M. A.*, made special mention of the part of preventive medicine—more especially the portion that deals with the personal relation between physician and patient—which belongs to the practicing physician. This is indeed pleasing to those of us whose time is devoted almost entirely to the prevention of disease. It, of course, imposes a great responsibility on our physicians to become much more "public health minded" than many are at the present time.

UNDULANT FEVER CIRCULAR

A circular giving the essential information which the public should have regarding this disease has just been issued by the Department. The informa-

tion is given in question and answer form, similar to circulars of information regarding other communicable diseases. These are available for distribution.

NEW COMMUNICABLE DISEASE CHART

The Department has just issued a small chart—about seven and one-half inches square, giving the names of communicable diseases, period of incubation, chief symptoms, whether placardable or quarantinable and the period of quarantine. Physicians may want a copy to tack up in their office or to give to teachers, public health nurses, etc. They are available in any number.

R. F. KNIPFER, "CANCER SPECIALIST", FOUND GUILTY

R. F. Knipfer, "cancer specialist", of Des Moines, was found guilty of practicing medicine without a license by a jury in the district court of Polk county, November 18.

Knipfer was indicted a short time ago on evidence secured by Herman B. Carlson, director, law enforcement division of the State Department of Health. Knipfer had excellent legal talent to represent him and the state was represented by Alexander Miller, assistant county attorney, a very able young lawyer.

Knipfer's attorneys claimed that their client only sold proprietary medicines and that he came within the exception of Section 2539 of the Code of 1927, as follows: "Persons who advertise or sell patent or proprietary medicines". They also claimed that their client did not profess to be a doctor and that he only distributed proprietary medicine to physicians.

Ben Challe, a Stanhope, Iowa, farmer, told the jury that his wife had died several months after taking Knipfer's medicine; that he paid Knipfer an initial payment of \$100, and \$5 a week during the time of treatment, and that she failed to improve as a result of the treatments. Challe also told the jury that he visited Knipfer's home during the state fair in 1927, accompanied by his wife, upon the recommendation of a friend.

There was no direct evidence for the state, all of the evidence being given by some close relative of the deceased person who had taken Knipfer's treatments. Several persons who claim that they were successfully treated and cured of cancer by Knipfer gave testimony. Three physicians took the stand in person in Knipfer's behalf. Their names are as follows: Charles W. Clark, Chicago; C. L. Löffler, Chicago, and A. L. Cochran, Cummings, Iowa. The two last named are medical men licensed in Iowa. These physicians stated that they had a pecuniary interest in Knipfer's proprietary medicines.

It is inexpressibly pleasing to the Health Department that conviction was secured in this case. It should be an example to those who may be practicing any of the healing arts without a state license so to do.

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THE FALL CONFERENCE OF COUNTY OFFICERS AND COUNCILORS

Thursday, November 7, upon call by Dr. John H. Peck, the officers of the county societies of the state, together with the councilors and deputy councilors from the various districts, convened in an all-day session at the Hotel Fort Des Moines, Des Moines, Iowa. This conference is the fourth of this sort to be held, and was by far the most generously attended. One hundred and thirty-six officers were present.

Besides the routine business having to do with the organization and operation of the county societies, the conference stressed at this session discussions dealing with the economic problem of caring for the sick poor through channels of organized medicine in each locality.

The out-of-state guest and outstanding speaker of the session was Dr. Morris Fishbein, editor of the Journal of the American Medical Association, Chicago. The morning session was opened by President John H. Peck, who, on behalf of the state organization, welcomed the guests to the conference. Dr. W. A. Rohlf of Waverly, president-elect, outlined the purpose and problems of the meeting. Dr. Tom B. Throckmorton of Des Moines, secretary, presented the subject of society memberships, discussing the accomplishments of the past year in stimulating interest and enrolling physicians in both the county and state organizations. He presented plans and suggestions for furthering this campaign, especially emphasizing the importance of bringing into membership the one hundred new physicians

who were beginning practice in Iowa this year. Dr. Robert L. Parker, treasurer, Des Moines, presented a financial statement, while Dr. Thomas A. Burcham of Des Moines, chairman of the Legislative Committee, made a brief report of the committee's activities and urged that the county societies determine to take an increased interest and part in local politics. Dr. D. C. Steelsmith of Des Moines, deputy state commissioner of health, spoke on the subject, "The County Health Unit". In this paper he explained the purpose and operation of the new county health unit law. Dr. A. V. Hardy, director of the State Diagnostic Laboratory at Iowa City, delivered a paper on "Laboratory Service" in which he outlined the advantages of having diagnostic laboratories located in the northwest, northeast and southwest quarters of the state.

Dr. R. F. Childs of Audubon reported for the Committee on Medical Economics, stating the problems being attacked and asking that similar situations be referred to the committee since they would throw light on the various subjects being investigated. The members of the Committee on Medical Education and Hospitals, Dr. B. L. Eiker of Leon, Dr. A. W. Erskine of Cedar Rapids, and Dr. A. V. Hennessy of Council Bluffs, told of the great task being undertaken and urged that all county officers be prepared to assist the committee in collecting vital data.

At 12:30 p. m. a luncheon was served at the Hotel Fort Des Moines, at which Dr. W. A. Rohlf presided. Following the luncheon, Dr. Channing G. Smith, Granger, chairman of the Council, Dr. John F. Herrick of Ottumwa, trustee, Dr. George C. Albright, secretary of the Johnson County Society, and Dr. Frank P. Winkler, deputy councilor of Osceola county, delivered short talks.

Dr. Morris Fishbein addressed the conference at 2 p. m., taking for his theme, "The Present Trend of Medical Practice". In his paper Dr. Fishbein clearly set forth the necessity for protecting the public against state medicine in any and all its forms.

The symposium presented by Dr. Charles B. Taylor of Ottumwa, Dr. Oliver J. Fay of Des Moines, and Dr. George B. Crow of Burlington, was of particular value in the program, since it dealt with the organization and functions of the various component parts of the state society. Many valuable suggestions were offered for greater efficiency in the state organization. Dr. Taylor and Dr. Fay joined in advocating the various features of the proposed new constitution which is to be voted upon at the 1930 session of the House of Delegates. Dr. D. S. Fairchild, chairman of the Historical Committee, then made an announcement as to the program of that committee.

A symposium conducted by Dr. C. W. Ellyson of Waterloo, Dr. C. S. Cornell of Knoxville, Dr. C. M. Wray of Iowa Falls, Dr. C. A. Boice of Washington, Dr. W. W. Southwick of Marshalltown, and Dr. W. W. Bowen of Fort Dodge, dealing with the general subject of "The County Contract", created unusual interest, and will furnish material for a proper development of satisfactory contracts between the executive civil officers of the county and the members of the county medical society. Various forms of contract were discussed in a critical fashion, presenting both the favorable features of the particular contract, as well as stressing the unfavorable phases which have developed in the operation of the particular program. Mr. Vincent Starzinger, Des Moines attorney, attended the conference and rendered opinions as to the legality of the various forms of contract proposed. Any county society contemplating such a contract for the medical care of the sick poor will benefit materially by careful review of the papers of this symposium.

To those who attended this conference, the entire program was considered very worthwhile. Our secretaries and councilors will return to their respective societies enthused with the possibilities of constructive advancement in medical practice made possible by means of medical organization. They will carry to their societies the enthusiastic spirit of endeavor which permeated the activities of the entire session. They have received instruction and inspiration which, when transmitted to their local county units, should cement the profession in a closer bond of professional interest.

"HYGEIA"

From time to time, this office receives inquiry relative to "Hygeia" from lay organizations or individuals desiring authentic information relative to matters of health. It is anticipated that many practicing physicians receive this same inquiry, and certainly those acquainted with "Hygeia" are ready and willing to bear testimony of its high ideals and authentic presentation. It is to be regretted that "Hygeia" is not reaching every physician practicing in this country, since every physician can receive benefit from its perusal, the physician's family can be informed upon health matters, and its display in the physician's waiting-room will in itself act as an endorsement of this periodical to the public.

The public is looking to the medical profession today for information upon many subjects which a generation ago were considered highly professional. However, with the active campaign for preventive medicine, the early diagnosis of tuberculosis and cancer, the popular discussion of goiter

as a municipal responsibility, the stress placed on the dangers of under- and over-weight, and the popular discussion of dietetic principles in lay literature, the public is becoming not only informed, but eager to receive health information.

The American Medical Association is to be commended in meeting this responsibility by establishing "Hygeia". It is further to be commended in the fact that the editorship of "Hygeia" should be placed in the same hands as that editing the Journal of the American Medical Association. The medical profession should uniformly realize the value of "Hygeia" as a health periodical, and should, when occasion permits, recommend it to the lay public.

Our attention has recently been drawn to an offer made by the American Medical Association, in which, with a year's subscription for "Hygeia" at \$4, a complimentary copy of "Your Weight and How to Control It", edited by Dr. Morris Fishbein, is given. This opportunity to secure not only a health journal of the highest order, but also a volume dealing with that very live topic of weight control, is one which should receive careful attention. For those not acquainted with "Your Weight and How to Control It", it may be said that this volume has been completed under the direct supervision of the officers of the American Medical Association, and to a large extent represents thoughts developed by a conference called by the Association in February of 1926 for the study of problems having to do with weight control. A more detailed review of the book appears under the heading of "Books Reviewed" in this issue.

ANNUAL CONFERENCE OF SECRETARIES IN CHICAGO

On November 15 and 16, upon call from National Secretary Dr. Olin West, the secretaries of the constituent state medical associations and the editors of the state medical journals convened in Chicago to discuss matters pertaining to the welfare of the state organizations. The conference was generously attended, and an enthusiastic reception accorded each speaker on the program.

Considerable discussion was given to the furtherance of plans directed towards the development of greater unity in the medical profession, stressing the value of the organization program to all practitioners. Problems pertaining to the control, administration and development of the state societies were freely discussed. The problems of industrial medicine were presented by Dr. Cary P. McCord of Cincinnati, and it appeared from the very generous discussion which this subject received, that such problems are indeed widespread and are at this time demanding thoughtful consideration in almost every state. The trend towards state medicine or contract practice was ably discussed, and the various agencies tending towards the development of this undesirable program presented. The ideals, form, and reason for existence of the state journals

COUNCIL MESSAGE

WOMEN'S CLUB MEMBERS WANT HEALTH EXAMINATIONS

During the coming months many members of Iowa Women's Clubs will come to members of the Iowa State Medical Society for general health examinations, and it behooves us to be prepared.

The health committee of the State Federation of Women's Clubs has as its chairman the wife of a past president of our society, Mrs. M. N. Voldeng of Woodward. The following physicians' wives are members: Mrs. M. C. Mackin, Mt. Pleasant, First District; Mrs. C. W. Maplethorpe, Toledo, Fifth District; Mrs. L. W. Clark, Chester, Fourth District; Mrs. Channing Smith, Granger, Seventh District.

The other members are: Mrs. F. H. Waters, Vice Chairman, Ames; Mrs. S. C. Snider, West Liberty, Second District; Mrs. A. M. Donnan, Hudson, Third District; Mrs. E. G. Walton, Oskaloosa, Sixth District; Mrs. Paul Giltner, Beacons Field, Eighth District; Miss Mary Rathke, Glenwood, Ninth District; Mrs. Charles Crooks, Jefferson, Tenth District; Mrs. H. H. Holmes, Sioux City, Eleventh District.

At a recent meeting, this committee not only unanimously voted to cooperate with the State Medical Society to have only properly qualified physicians appearing before the various clubs but they also decided to institute a two year health examination contest between the various districts. This contest is to determine which district can have the highest percentage of its members secure general health examinations during the biennium. The committee adopted the following procedure:

1. Examinations are to be made by the regular family physician.
2. The examinations are to be paid for by the club member examined and the physician is expected to receive full compensation for his service as determined by the standards in the community and the extent of the examination.
3. A report card which the club member may use in securing credit for the examination must be signed by the examining physician and in form will be substantially as follows:

OFFICIAL CERTIFICATE

IOWA FEDERATION OF WOMEN'S CLUBS General Health Examination

THIS IS TO CERTIFY that I have made a general health examination of M. _____ of _____
Date _____ 19____ Signed _____ M. D.
Member of _____
County Medical Society.

PHYSICIANS SHOULD COOPERATE

Since 1922 the periodic health examination movement has had the approval of the House of Delegates of the American Medical Association. In that year the Council on Health and Public Instruction was authorized to prepare forms suitable for use by practitioners of medicine in making periodic health examinations. A manual of suggestions for the conduct of an examination was also prepared. (These examination blanks printed on both sides of a letter, sheet measuring 8x10 inches are on sale by the American Medical Association, ten copies for twenty-five cents. Or the Iowa State Medical Society will supply free as long as they last, both examination blanks and manuals.) At subsequent meetings at San Francisco in 1923 and in Chicago in 1924 the House of Delegates of the American Medical Association passed resolutions urging: first, that state and county medical societies, hospitals and medical schools prepare their members, associates and students to undertake this service; second, that it be paid service, except in case of the indigent; third, that the family physician should continue to be the most important factor in this new field of the prevention of sickness, and fourth, that a suitable manual of suggestions or instructions for the conduct of these examinations be prepared. Note that this procedure adopted by the Women's Clubs coincides exactly with this.

The movement for health examinations is being sponsored by many medical organizations in the United States.

The Public Health Relations Committee of the New York Academy of Medicine prepared and had published a book on the subject of Preventive Medicine and Health Examinations. The Medical Society of the County of Kings has a committee on Public Health Relations which has long had as one of its main activities the promotion of periodic health examinations. This fall The Five County Medical Societies of Greater New York are personally promoting a campaign for promoting public health with a health examination campaign as the central idea. Some of the head lines are very illuminating; "10,000 Private Physicians Begin Drive Educating Public on Preventive Health Measures", "New Precedent Established for Medical Profession", "Doctors Go to School Again: Will Assemble in Academy of Medicine to Learn How to Conduct Public Health Examinations".

SUPPLIES AND SERVICES AVAILABLE

County secretaries or members desiring the American Medical Association examination blanks or the manual should write immediately to the office of the Iowa State Medical Society. Any special problems coming up through requests that may be made in this connection should be settled either in a county medical society or referred to the state office for reference to the proper committees.

Channing G. Smith

Chairman of the Council.

were presented by Dr. J. H. Musser of New Orleans, and discussed by many of the editors present.

Throughout the entire conference, the need of greater unity and cooperation in the organized societies of the profession was stressed, and the feeling generally acknowledged that the intelligent banding together of physicians for economic as well as professional advancement is desirable. It was further stressed that medical organization at this time was largely perfected for the advancement of science, and that the economics of practice have to a large extent been undeveloped. The present organizational machinery, however, was considered sufficient for the development of the joint responsibility, and it was urged that the county and state organizations in particular discuss and perfect plans for the preservation of individual practice and the maintenance of the practice of medicine as a profession, anticipating and combating attempts to place the physician in the position of state employee. In this connection, the various forms of county contract for the care of the indigent poor were discussed, and several plans of organization and operation outlined. Agreement was reached that the most desirable contract to make for this work was one sponsored by the county societies.

The detailed program, as well as a reproduction of the papers presented, will appear in full in the early issues of the Bulletin of the American Medical Association.

SCIENTIFIC MEETING DURING HOLIDAYS INTERESTING TO PHYSICIANS

Of special interest to physicians of Iowa is the forthcoming eighty-sixth annual meeting of the American Association for the Advancement of Science to be held in Des Moines December 27 to January 2nd—the first time in Iowa.

Dr. D. W. Morehouse, president of Drake University, is chairman of the committee on arrangements; Dr. Walter L. Bierring is chairman of the membership and finance committee; and Dr. John H. Peck is sectional representative for the medical program.

These men have joined in a statement just issued which asserts in part that this is "the opportunity of a lifetime to Iowa professional men interested in science and medicine".

By a special arrangement with the national association there will be offered to any Iowa physician an associate membership for five dollars which admits not only to the reserved section of the Shrine Temple for the general sessions but to all the technical and section meetings of which there are more than one hundred sixty.

Five thousand scientists and educators are expected to attend, and this will be the largest gathering of professional men in the country. Scientists of international reputation will appear on the program: Dr. John C. Merriam, president of the Carnegie Institution, Washington; W. J. Humphreys, physicist; Professor Charles F. Brooks, meteorologist; Frank Springer, paleontologist; Alex Hrdlicka, anthropologist; Henry O'Malley Davenport, U. S. Commissioner of Fisheries; Charles William White, tuberculosis expert, Washington; Roger Adams, professor of organic chemistry, University of Illinois; Charles C. Adams, zoologist; Arthur M. Banta, Carnegie Institution; M. W. Sterling, chief of the bureau of American ethnology; Arthur Coggeshall, explorer.

In addition to the program arranged for the city of Des Moines, arrangements will be made for addresses to be given in Davenport, Burlington, Sioux City and Ames, Iowa, in Omaha, Nebraska, and possibly elsewhere. These addresses will form a definite part of the program of the meeting, and will deal with the exploration of unknown or of little known portions of the earth's surface, with the exploration of unknown or little known portions of or objects in the skies, or with the exploration of the borderlands of physics, chemistry or biology. They also deal with the more concrete problem of just how science affects us in our daily lives. In these talks the technical advances brought out in the first series of talks are presented in simple language that can be understood by everyone.

The society is divided into seventeen groups and sixty-one sectional meetings will be held under group headings. Hotels, court rooms, theaters, the coliseum, down town clubs and all other available meeting places will be pressed into service for the numerous sectional sessions meeting simultaneously.

The annual meetings of the American Association for the Advancement of Science serve a double purpose. In the first place, these annual meetings serve to bring together the scientific workers of the country. Through the presentation of technical addresses and papers and by discussions the latest advances in all lines of science are made generally known. The students in all lines of science are able to exchange ideas and information and by this means to get a clearer insight into what is being done in their field of special interest—astronomy, zoology, physics, chemistry, or whatever it may be—than they could merely by reading printed memoirs. And besides all this the research workers, most of whom are attached to universities, colleges and schools, or museums or other institutions throughout the country, are able to meet each other and to form lasting friendships which in later years serve to stimulate and increase the interest in the search for scientific truth. For the younger men especially this is a very great advantage. They are able at these meetings to meet the older men who are the recognized leaders in their special lines and from this personal contact to gain increased confidence in the value of their own work, and, more important still, to learn how their special work fits into the structure of science as a whole, and the relation of science as a whole to the broader phases of human activities and of human thought.

In the second place, the Association realizes its responsibility to the general public. The ultimate aim of all scientific work is the betterment of human welfare, both in its material and in its non-material aspects. Every established scientific fact has a definite bearing on some phase or other of human activity or of human thought. Not so long ago many of the principles involved in the operation of the radio were regarded as merely curious phenomena and were unknown except in the laboratories of the physicists. The curious facts of one decade may become correlated into basic principles the next. In science no one can foretell what is going to happen.

We all are growing older. We must look forward to the day when our scientific work shall pass into the hands of the coming generation. So the Association in connection with its meetings always presents a number of talks which are planned especially for children, though given by recognized authorities in the subjects treated.

Medicine in a Western Town

While looking around for a location in California, Dr. Sage was asked to take over the practice of a physician in Calipatria for a short time and, finding the experience very interesting, thought some of his Iowa friends might appreciate an account of the country and people. The town of from twelve or fifteen hundred population was left entirely without medical service, except that given by the druggist, the nearest town having a doctor being fourteen miles distant.

Calipatria is situated in the northern part of Imperial county, the land made famous in the story "The Winning of Barbara Worth" by Harold Bell Wright. Imperial county, comprising the Imperial Valley, is a hundred miles wide and somewhat more in length from north to south. "Calipat" as the town is called lies some 170 feet below sea level and is the lowest of any incorporated city in the world.

Imperial Valley was a basin formed untold ages ago by the crater of the largest known volcano (so determined recently by a party of visiting European scientists). This crater extended from Banning down and out into the Gulf of Lower California and was a large inland sea. Some ten thousand years ago the Colorado River carried immense quantities of silt and built a "Delta Dam"; then, as time went on, the sea evaporated leaving a desert plain covered with sand and silt over most of its area. The mountains surrounding this valley plainly show the ancient shore line and lower down the old ocean beaches. Formerly the Imperial Valley was classed along with Death Valley and only the most hardy and seasoned scouts attempted its passage. About three decades ago capital came along and attempted its subjugation. Settlers then rushed in—for the soil is fertile—but the first levee systems proved to be inadequate and in 1906 the mighty Colorado broke through, flooding much of the settled area, making great quarter mile gorges with clifflike sides and forming the New and Alamo rivers and remaking an inland sea fifteen miles wide and three times as long, which still remains at about the same level, fed by the two rivers. Man has again built pilings and dikes to guide its course but no one knows when it will again "go over the top". It is one of the

richest large areas in the world but, because of the flood danger, capital hesitates to make loans on these farms. All of the valley, however, is not in a state of cultivation; much of it is still desert covered with cactus, mesquite, chapparel and greasewood. A dust storm is a regular desert phenomenon, lasting one to three days and the fine smothery dust penetrates everywhere, choking and smarting and forming a layer in the houses to harass the housewives. During these storms only extremely urgent cases are called on since the sand is ruinous to automobile finishes and even the car windows may be pitted.

The Imperial Valley slopes gently to the west and a large feed canal taps the Colorado River above Yuma, a branch, and runs along northwest up the east side of the valley with lateral ditches running every half mile. We may state here that directions for country calls are given in canals instead of miles. The roads are dirt, passable if dry and impassable if wet. It seldom rains but drainage ditches overflow, and, due to bad bridges over these ditches, auto accidents are frequent.

The inhabitants are largely Mexicans but Indians, especially the Hindoo, East Indian, are plentiful. Negroes are numerous and generally respected citizens, some of them having large stores and ranches. The white people, though in the minority are, of course, the ruling race. The Hindoo cannot rent or own real estate but he rents through some agent, marries the best of the Mexican women and is unusually smart and keen in finance and initiative, often being the "big rancher". He is tall and fine looking. The Mexicans have a pride in their language that is a handicap to them. They feel that they were here before the Americans and that we should learn their language and they do not try to learn the English language and oftentimes will not let their children interpret—the children learn English in the schools for they have to attend school and the busses go to the camps and bring them in. The Mexicans are childlike and appreciative in manner. The "gracias" (thank you) of one old Mexican woman whom I relieved of her suffering from pleurisy and overwork—her fingers were worn down to the bone from picking peas—will always be remembered by

The problems of medical practice are frequently governed by physical factors dependent upon one's location. In the accompanying article, Dr. Fred C. Sage, formerly of Waterloo, Iowa, presents in a colorful manner the problems of medical practice as he encountered them in the Imperial Valley of California.

me. Incidentally, I found them the best pay of all. Each family seems to have as a prize necessity a large trunk and somewhere in this is usually kept the family purse and this purse always comes forth to pay the doctor. Wages are high and the doctor is paid in cash, nearly always in silver dollars. The white people are a fine class of people, tall fine-looking ranchers, beautiful well-gowned women and rosy cheeked children.

The physician has to combat with the ignorance and superstition of the foreign inhabitants. As an illustration, on one confinement case, that of a young Mexican woman of twenty-three (her third confinement), I found the patient with the usual rope of twisted cotton cloth bound tightly around her abdomen (nearly all of the Mexican women wear this as it seems to have some religious significance with them) and we nearly caused a panic by loosening this belt. They put a similar rope around the babies and as a result many of them suffer from umbilical hernia. The Yaqui Indian women crawl out in the brush to give birth to their babies unless prevented by some kind hand and then they are "ashamed to have any gentleman present" and oftentimes show all the fear of the wildest animal. Needless to say the "Red Light" district furnishes plenty of thrills.

The country abounds in insects and reptiles, the gnats causing so much eye trouble that a special commission came out from Washington to investigate in the Coachella Valley just above the Imperial. One week supplied a case of rattlesnake bite; a man bitten three places on the leg by a tarantula; a child bitten by a large spider; and a paper boy bitten by a police dog. The sub-sea level in itself does not seem to affect the health but the extreme continued summer heat (summer temperatures of 120 F. are not uncommon) does; uterine hemorrhages are very common; fractured bones are slow in forming union; and life insurance companies allowed for twelve to fifteen pounds underweight. The "blooming desert", followed by periods of drouth and the fine dust and wind and the flying pollen causes innumerable cases of hay fever.

The desert is dangerous all through the hot weather but one is not often called out far. At Niland, the most northern town in the valley, a large red sign stands at the portal to the desert road to Blythe, which reads: "Warning: Don't take this road unless your motor is perfect, your tires the same, and you have plenty of water, gas and oil." I had one call on this road—a month later a family of seven Mexicans were stalled out some distance with car trouble and all perished with thirst and heat and the same week a family of five some distance further east met the same fate.

In conclusion, the destiny of the Southwest "Rides upon the waters of the Colorado River". It is at once the richest resource and blackest menace of this region. Through its upper reaches it cuts through deep canyons while the lower course really rides along a ridge above the surrounding country. Each year this silt is raising the bed of the river, requiring the raising of levees and dikes costing the ranchers millions. The Boulder Dam will stop all this menace so it is a race between natural forces and the engineers and between the rivers and the ranchers. Sixty thousand people live in the Imperial Valley alone and the valley produces fifty millions annually. Since 1906, the lower river bed has raised some twenty feet. Once this valley is flooded, situated as it is, as much as 250 feet below sea level, it can never be drained. The building of the Boulder Dam as an effort to furnish the coast cities with a water supply for eight million people and to avoid the flooding of the rich Imperial Valley and other valleys, will be watched with interest.

—FRED C. SAGE, M.D., San Pedro, Cal.

SIoux CITY HAS FULL TIME HEALTH OFFICER

Dr. Edwin B. Godfrey, new health officer for Sioux City arrived Monday, November 11, to assume his duties. Dr. Godfrey, who is a former major in the United States Army Medical Corps, comes highly recommended to Sioux City from Louisiana where he was the head of the Louisiana Public Health Association and president of the Webster Parish Health Unit at Minden, Louisiana.

Mayor Thomas B. Huff made the appointment at the suggestion of Dr. Martin J. Ryan, present part time city physician and many other Sioux City physicians, who feel that the numerous duties demand a full time officer. Dr. Godfrey will not engage in private practice.

MEDICAL SCHOOL OF THE UNIVERSITY OF SOUTHERN CALIFORNIA

This fall the Medical School of the University of Southern California is offering the second year of preclinical medical work in addition to the first year courses, and the third and fourth years will be added in 1930 and 1931, respectively. A staff of five professors, two associate professors, four instructors, six demonstrators, and six assistants have been assembled, including Dr. Paul S. McKibbin, professor of anatomy; Dr. Harry J. Duel, professor of biochemistry; Dr. Ernest M. Hall, professor of pathology; and Dr. Burrell Otto Ralston, professor of medicine; also Dr. John F. Kessel, Dr. Clinton Thienes, Dr. Esther M. Bartosh, Dr. Philip Randall Fulton, Frederick C. Messer, and Dr. Lawrence Parsons. These appointments have been made under the direction of Dean William D. Cutter, formerly dean of Postgraduate Medical School, New York City.

Why Organize an Auxiliary

By MRS. FREDERICK G. MURRAY

Secretary of the Woman's Auxiliary to the Iowa State Medical Society

Doctors like to take their wives to the state convention—perhaps because they see so little of them at home. Usually there are about 200 women in attendance. Although luncheons, teas, theater parties, rides and dinners have been so generously provided in former years by the wives of the local medical society and the state society, still the visiting women attended these individually with little opportunity to get acquainted. They spent most of the time with friends in town or shopping and, although friendly people whose husbands belonged to the same profession, the majority went home without making any new contacts. The group lacked continuity. The officers of an auxiliary would have provided leadership and formed a nucleus about which the group could center. We need an auxiliary to assist the local doctors' wives in providing a program and entertainment at the state medical meeting in May.

Since acquiring suffrage rights, women have become a more powerful factor in modern life—taking a new place by their husbands in all lines. Perhaps doctors should see that some of this public influence of their wives is applied to their own profession.

In most professions or lines of business the wives have been expressing themselves. The minister's wife has always been appropriated by her congregation; lawyers, politicians, diplomats, college professors gain public favor through the social graces of their wives. Auxiliaries have long been popular in the government offices as well as the various veterans and fraternal organizations.

Up to this time the doctor has not used his wife in any public way. Her efforts in his behalf have been confined, for the most part, to answering the phone, keeping meals warm, observing a discreet silence about his patients and making a cup of coffee in the night.

A high quality of leadership is possessed by doctor's wives in general. This should add prestige to the medical profession. We have Mrs. Donald Macrae of Council Bluffs, National President of the Legion Auxiliary; Mrs. M. P. Summers, Sioux City, state president of the Iowa Congress of Parents and Teachers; Mrs. Carl Magdsick, Charles City, secretary of the same organization; Mrs. S. E. Lincoln serving on the Des Moines Board of Education and prominent in state club work; Mrs. Arthur Erskine, Cedar Rapids, book page editor;

Mrs. Frances E. Whitley, Webster City, member of National Board of Federated Women's Clubs; and Dr. Aurelia Reindhart, president of Mills College, California, former National President of the American Association of University Women. There are many other wives of doctors holding equally high positions as well as those attaining prominence as social leaders.

There are many ways in which this leadership might be used for the benefit of the medical profession. The following is a suggestion:

Many doctors' wives are already serving on the health committees of the various state organizations such as the Legion Auxiliary, P. T. A., Farm Bureau, Red Cross, and The Federation of Women's Clubs. Our president, Mrs. M. Nelson Voldeng, Woodward, Iowa, is state chairman of health in the last named organization. These women on the various committees might be appointed to serve on a health committee for the Medical Auxiliary but functioning mainly on the health committees of the other organizations, seeing that a proper ethical tone is maintained in the public health work of the state.

The medical profession is changing; there is need for the combined leadership of the doctors and their wives to help in determining public opinion. Until recently the doctor and his work has been individualistic and isolated; now it is found that in order to establish modern medicine, the doctors have to stand together in an organized way, in hospital staffs, medical societies, and clinical groups. It is suggested that doctors' wives may have a part to play in organized medicine by helping to gain for the profession the support of public opinion.

NOTES FROM THE AUXILIARY

At a luncheon in Iowa City, given recently by the faculty wives of the University medical men, Mrs. M. N. Voldeng, president of the Woman's Auxiliary to the State Medical Society, gave a talk on the new auxiliary and the need for organizing in Johnson county.

Mrs. F. E. V. Shore, president of the Polk County Medical Auxiliary, entertained the members at her home on the afternoon of October 24.

A meeting of the executive board of the Medical Auxiliary met at the Fort Des Moines Hotel November 1. There was present Mrs. M. N. Voldeng, Woodward, president; Mrs. David H. Hopkins, Glidden, second vice-presi-

Reasons for the Woman's Auxiliary

Joining and taking an active part in the Woman's Auxiliary could very well be ranked as the first activity which any physician's wife should assume outside her home. The immediate welfare of physicians and their families and the future of medical practice depend upon what the public thinks and does with regard to medical practice and health activities. Organized medicine exists largely to promote scientific advancement among its members, the betterment of the profession, and proper guidance of health activities. Except for scientific education, practically every purpose of organized medicine can be as well, or better, accomplished by a woman's auxiliary than by a medical society itself. Some of these activities are:

PROMOTE FRIENDLINESS

Even in localities where the Woman's Auxiliary has undertaken but little beyond mere social activities, great results have been accomplished. Social gatherings have resulted in better acquaintance and greater friendship among physicians and their families and increased the solidarity of the profession. Where the wives have held a meeting at the same time the medical society held a scientific session, the attendance at the medical meeting has been surprisingly increased.

CAN GUIDE HEALTH ACTIVITIES

It is generally true that physicians' wives are, or can easily become, active in the public health programs of the various lay organizations whose work is everywhere impinging upon medical practice. These lay health organizations can accomplish great good both for the public and the profession, and auxiliary members can very easily see to it that the various lay activities with which they are connected are conducted in a way that meets with the approval of the physicians in their county. In this way a possible liability can easily be turned into a tremendous asset.

HEALTH EDUCATION

One of the favorite forms by which quackery propagates itself is through lectures offered to women's clubs and other lay organizations. The Iowa State Medical Society has a speakers bureau which can send qualified physician speakers to any or all lay meetings. The members of the Woman's Auxiliary could very easily both eliminate faddists as club speakers and also find dates for members of the state society speakers bureau. Lay education of this sort will destroy the cults faster than any laws.

OTHER ACTIVITIES

The auxiliaries in Iowa and over the country have entered into a variety of other activities. These depend upon the needs of the local community, as well as what the collective membership may be disposed to do. Some of the things being done are: serving for indigents in maternity hospital, sponsoring public health activities omitted by other organizations, promoting county health unit, or setting up a community health council to coordinate all health work with medical society counsel.

OPPORTUNITY

Please notice that the first three activities outlined above are not in themselves burdensome. They will not make great demands upon the time of the individual members. Since the physician's wife is generally, by virtue of her position in the community, already active in social and health organizations, it follows that the program outlined above will not mean an increase in duties and responsibilities but merely the coordination of those community enterprises, the proper conduct which is so vital to her husband's success, the future of the profession, and the welfare of the community.

dent; Mrs. John H. Peck, Des Moines, third vice-president; Mrs. Channing G. Smith, Granger, treasurer; Mrs. F. E. V. Shore, Des Moines, parliamentarian; Mrs. Frederick G. Murray, Cedar Rapids, secretary. Mrs. Tom B. Throckmorton, fourth vice-president, was appointed chairman of education.

Mrs. M. Nelson Voldeng, state president of the Medical Auxiliary entertained the members of the Polk County Auxiliary and others throughout the state, at a one o'clock luncheon, Saturday, November 9, at The Meadows, Woodward, Iowa.

BROADLAWNS' MEDICAL CLINICS

The Broadlawns Hospitals, located in Polk County, Iowa, have for the past two years conducted weekly clinics, to which not only the members of the visiting staff, but other members of the Polk County Medical Society have been invited. These clinics have been held on Friday morning, and have consisted of clinical discussion and demonstration with the presentation of interesting or unusual cases. The attending staff of these hospitals have made the weekly clinics of unusual interest and benefit to all who have attended.

For the coming year, they proposed to enlarge these clinics, dividing the morning period so that there will be a two hour surgical clinic followed by an hour and a half medical clinic. The discussions at these clinics will be of a general character at which all of the specialties will be represented. Case histories, when presented, will be complete with full laboratory, x-ray, metabolic and clinical data. Dr. C. H. Sprague, medical superintendent, has announced that these clinics will be open to any physician of the state who cares to attend. The first clinic under this new program to be presented was that of November 8. At the surgical clinic, the following subjects were discussed: 1. Head injuries. 2. Injection Varicose Veins. 3. Osteomyelitis. 4. Colostomy. 5. Hand Infections. 6. Thyroid and Infected Tonsils. At the medical clinic this same week, the following medical cases were presented: 1. Cardiac Cases. 2. Gastric Ulcer. 3. Lobar Pneumonia. 4. Alkalosis and Acidosis in Children.

NEW YORK INFIRMARY FOR WOMEN AND CHILDREN

A twenty-one story hospital is to be erected at the northeast corner of Livingston Place and East Fifteenth street to replace the old building in Stuyvesant Square which has served as the New York Infirmary for Women and Children. This infirmary was the first in America to make a specialty of the care and treatment of the diseases of women and children.

In order to give the maximum amount of sunlight and fresh air, the construction of the building will be cross-shaped. There will be 430 beds, and each floor will have a solarium or an open air terrace for the convenience of convalescents.

The staff of this new infirmary, as well as the structure itself, will be most modern and up-to-date in all phases of its construction, equipment, and service.

SOCIETY PROCEEDINGS

CALHOUN COUNTY MEETINGS

The Calhoun County Society met at the American Legion rooms in Manson, October 18th, where Fort Dodge physicians furnished the scientific program as follows: An Interesting Throat Case, Lymphoblastoma of Tonsil, L. M. Martin, M.D.; Rheumatic Heart Disease in Childhood, W. W. Bowen, M.D.; A Case of Post Delivery Eclampsia, Roland Stahr, M.D.; and The Course of Pregnancy in Influenza, John C. Shrader, M.D.

Dr. Newbert recently associated with Dr. Earwood, Drs. Herrick (father and son), Townsend of Gilmore City, and Patterson of Fonda were also present as well as a good attendance of Calhoun county physicians. A delightful dinner was served as a courtesy of the Manson members, preceding the meeting. P. W. Van Metre, M.D., Secretary.

Thursday, November 21, the members of the Calhoun County Medical Society met at Lohrville and conducted a symposium on An Obstetrical Platform. The guest speaker of the evening session over which Dr. Palmer Findley of Omaha presided, was Dr. Fred L. Adair, Chicago, who is chairman of the joint committee on Maternal Welfare appointed by the A. M. A., the American Association of Obstetricians and Gynecologists and the American Child Health Association. Dr. Adair spoke on The General Practitioner and Obstetrics. Other speakers were: W. E. McCrary, M.D., Lake City, Anaesthesia; R. E. Parry, M.D., Scranton, Forceps; W. A. Anneberg, M.D., Carroll, Malpositions; W. J. Findley, M.D., Sac City, Umbilical Cord; A. H. McCreight, M.D., Fort Dodge, Episiotomy; Ben C. Hamilton, Jr., M.D., Jefferson, The First Day. The meeting was well attended by members of the Calhoun County Medical Society and visitors from surrounding counties. The session closed with a banquet at the Wilson Hotel. P. W. Van Metre, M.D., Secretary.

CERRO GORDO COUNTY

The Cerro Gordo County Medical Society held its regular meeting Tuesday, November 12, at the Hotel Hanford in Mason City. Following a 6:30 dinner, Dr. Morris Fishbein, editor of the Journal of the American Medical Association, delivered an address on The Present Trend of Medical Practice and the Cost of Medical Care. This was a very splendid lecture and was enjoyed by fifty members of the society and adjoining county societies. Dr. Fishbein addressed a large audience of club women in the afternoon.

T. E. Davidson, M.D., Secretary.

FAYETTE COUNTY

The members of the Fayette County Medical Society held an all day session Tuesday, November 26, at Oelwein beginning with with a surgical clinic at the Mercy Hospital from 8 a. m. until noon. Following the noon luncheon, Dr. George L. Apfelbach of Chicago conducted diagnostic clinics at the Apfel Hospital. After the dinner, which was the courtesy of the Oelwein City Medical Society, Dr.

Apfelbach presented a paper on Surgery in Diabetic Gangrene, which he illustrated with slides.

HARDIN COUNTY ANNUAL MEETING

Dr. Harold Mangun of Ackley was elected president of the Hardin County Medical Society for the coming year, at the regular annual meeting of the society held in Eldora, Tuesday, November 19. Other officers elected were: Dr. E. O. Koeneman, Eldora, vice-president; and Dr. W. E. Marsh, Eldora, secretary (re-election). The program for the evening was furnished by Dr. Harry A. Collins and Dr. Lester D. Powell of Des Moines, who presented the subject of Exophthalmic Goitre.

JOHNSON COUNTY

Wednesday, November 6, the members of the Johnson County Medical Society met at Oakdale for their regular monthly meeting. After the social hour, Dr. Herbert V. Scarborough had charge of the first part of the evening program. Three cases were presented. Case One, Incipient Tuberculosis; Case Two, Advanced Tuberculosis; and Case Three, Non-tuberculosis Patients Referred to the Sanitarium as Tuberculosis. Dr. Phillip C. Jeans of Iowa City then presented two cases of Tuberculosis in Children.

LINN COUNTY

At the monthly Linn County Medical Society meeting held in Cedar Rapids, Thursday, November 14, Norman F. Miller, M.D., of Iowa City, spoke upon the subject of Dysmenorrhoea.

LOUISA COUNTY

The Louisa County Medical Society held its November meeting at Grandview where twelve members were guests of President O. A. Kabrick. Secretary Leslie E. Weber writes that the society is henceforth to meet on the second Thursday of each month. The next meeting is on December 12 and is to be held in Letts. The physicians in Louisa County are to be congratulated upon adopting such an active program; and physicians from the surrounding counties should keep the regular meeting date in mind so as to visit as often as possible.

MARSHALL COUNTY

Dr. James F. Weir of the Mayo Clinic of Rochester, Minnesota, was the speaker at the regular monthly meeting of the Marshall County Medical Society which was held Tuesday November 5, at the Hotel Tallcorn. Following the dinner, Dr. Weir spoke on Clinical Aspect of Jaundice.

POLK COUNTY MEETINGS

Members of the Polk County Medical Society met at the Hotel Fort Des Moines, Tuesday, October 29, for their regular monthly meeting. Following the six-thirty dinner, N. Boyd Anderson, M.D., presented European Impressions,

in which he briefly and to the point outlined post graduate study in Austria, Switzerland, Italy and the British Empire. He also made interesting comments on the social status of these various countries. Julius S. Weingart, M.D., presented a technical lecture on the subject of syphilis with relation to treatment during the disease, especially emphasizing the importance of early treatment.

A special meeting of the Polk County Medical Society was called by the president for November 8, and held at the Grand Club in honor of Dr. William S. Sadler, director of the Chicago Institute of Research and Diagnosis.

At the regular November meeting of the Polk County Medical Society, Drs. L. E. Kelley and A. G. Fleischman presented clinical cases of Bilateral Polycystic Kidney, after which a three reel motion picture, Infections of the Hand, was shown. The pictures were prepared by Dr. Allen B. Kanavel of Chicago. L. K. Meredith, M.D., Secretary.

TAMA COUNTY

The Tama County Medical Society held a meeting in Tama Wednesday, November 13, at which D. C. Steelsmith, M.D., Deputy Commissioner of Health, Des Moines, discussed with members of the society the county health unit plan and public health legislation.

WASHINGTON COUNTY

At the regular meeting of the Washington County Medical Society, held in Washington, Tuesday, November 5, D. C. Steelsmith, M.D., Deputy Commissioner of Health, Des Moines, presented the plan of a county health unit as made possible by the past year's legislation. Dr. C. A. Boice also spoke urging upon the society the adoption of this plan. As a result of the evening's discussion, President John L. Fry appointed a special committee to investigate and report to the society.

WEBSTER COUNTY

On October 29, 1929, the Webster County Medical Society had a dinner at 6:30 p. m. and following this Dr. D. C. Sutton of the medical department, Northwestern University, gave a very interesting paper on Recent Studies in Angina Pectoris. The paper was well illustrated by many slides and there was a good discussion following the paper.

John C. Shrader, M.D., Secretary.

The meeting on November 12th was held at 8:30 p. m. in the classroom at St. Joseph's Mercy Hospital. Dr. J. J. Foley, oral surgeon of Fort Dodge, gave a very instructive and well illustrated paper on Interesting Mouth Infections. Dr. Foley illustrated his paper by many pictures and showed the close relation between doctors and dentists in caring for these mouth conditions.

John C. Shrader, M.D., Secretary.

On Tuesday evening, November 26th, the Webster County Medical Society held a meeting in the classrooms at St. Joseph's Mercy Hospital. Dr. W. W. Bowen of Fort Dodge gave the paper of the evening on Fractures of the Elbow. The paper discussed the anatomy, the examination of the patient, treatment and following this the

author showed several interesting x-ray films illustrating the points brought out in the paper. Following this there was a short business meeting. The attendance at this program was very good, including local members and many from out of town.

John C. Shrader, M.D., Secretary.

WOODBURY COUNTY

Members of the Woodbury County Medical Society gathered at the Elk's Club in Sioux City, Friday, November 22 for a dinner and program session. During the dinner short toasts were given by the mayor, Mr. T. B. Huff; the superintendent of schools, Mr. M. G. Clark; the city attorney, Mr. H. C. Shull, and the new city physician, Dr. E. B. Godfrey. Frank Hough, M.D., Sibley, presented Tenaculum Splints for Gastroenterostomy and Intestinal Anastomosis; and George Neuhaus, M.D., Omaha, Nebraska, gave an address on Mild Forms of Manic-Depressive Psychosis, Their Diagnosis and Management. In addition to the above program, two educational films were shown, Infections of the Hand, and Prostatic Hypertrophy.

IOWA CLINICAL MEDICAL SOCIETY

The annual fall meeting of the Iowa Clinical Medical Society was held Saturday, November 2, at the Allen Hospital in Waterloo, Iowa. The following scientific program was presented:

Symposium cardiac conditions—seven cases including electrocardiographs, roentgenograms, etc., Drs. Shellito, Rathe, Powers and Barnett. Neurological cases—including encephalitis, polioencephalitis and traumatic paralysis, Drs. Nelson and Barnett. Hypertension—Interesting study with blood chemistry findings, etc., Dr. Nelson. Anemia—Two cases unsuccessfully treated by transfusion and successfully treated by liver, Dr. Nelson. Empyema with a questionable lung abscess complication, Dr. Gerken. Polycythemia, Dr. Kestel. Paget's disease—Complete x-ray report, Dr. Britt. Malta fever—results following acute infection several months ago, Dr. Nelson. Septicaemia—etiology acute tonsillitis three days after appendectomy, Dr. Barnett. Spondylitis, Dr. Barnett. Case, Dr. Waterbury.

COUNCIL BLUFFS CITY MEDICAL SOCIETY

The annual meeting of the Council Bluffs City Medical Society was held Monday, November 18, in the Council Bluffs Clinic, and the following officers were elected for 1930: Dr. S. D. Maiden, president; Dr. Jack Treynor, vice-president; Dr. Harriett Hamilton, secretary and Dr. A. V. Hennessy, treasurer.

FOUR COUNTIES MEDICAL SOCIETY

The Four Counties Medical Society which consists of Ida, Buena Vista, Plymouth and Cherokee counties, held a meeting Thursday, November 21, in Cherokee. Daniel C. Steelsmith, M.D., state deputy health commissioner addressed the meeting on the county health unit plan, and C. H. Johnson, M.D., showed two scientific films issued by the American College of Surgeons. Officers elected for the coming year are, Dr. E. F. Smith, Storm Lake, president; Dr. E. S. Parker, Holstein, vice-president; and Dr. M. J. Joynt, Le Mars, secretary-treasurer.

NORTHWEST IOWA MEDICAL SOCIETY

Tuesday, October 22, the Northwest Iowa Medical Society held its regular fall meeting in Sheldon. Following a six-thirty banquet at the Hotel Arlington, the scientific program was presented which consisted of: The Present Day Treatment for Goitre, C. B. Luginbuhl, M.D., Des Moines; Tuberculosis—Its Diagnosis, S. A. Slater, M.D., Worthington, Minnesota; and Sex and Insanity, George Donahoe, M.D., Cherokee. Officers elected for next year are: Dr. Frank Reinsch, Ashton, president; Dr. H. L. Avery, Primghar, vice-president; Dr. F. P. Winkler, Sibley, secretary; and Dr. L. L. Corcoran, Rock Rapids, treasurer.

SOUTHEASTERN IOWA MEDICAL SOCIETY

Members of the Southeastern Iowa Medical Society met in Ottumwa, Thursday, October 31, and were addressed by the following men: Louis Buie, M.D., Rochester, Minnesota; G. T. Gatewood, M.D., Chicago; J. W. Dixon, M.D., and A. A. Eggleston, M.D., of Burlington; H. V. Scarborough, M.D., Oakdale; Howard L. Beye, M.D., Iowa City; B. R. McAllister, M.D., Mt. Pleasant, and F. L. Nelson, M.D., Ottumwa.

SOUTHWESTERN IOWA MEDICAL SOCIETY

The Southwestern Iowa Medical Society met Wednesday, November 20, in Leon, and the following scientific program was presented: Surgical Treatment of Goitre, M. E. O'Keefe, M.D., Council Bluffs, and Pernicious Anemia, A. A. Johnson, M.D., Council Bluffs. Officers elected for the coming year include: Dr. B. L. Eiker, Leon, president, and Dr. Donald Macrae, Council Bluffs, vice-president.

FOUR COUNTIES HOLD JOINT MEETING

Thursday, November 14, fifty members of the Story, Hamilton, Greene, and Boone County Societies met at Boone, Iowa, and after a dinner served by the members of the Legion Auxiliary at the American Legion Cabin, they were entertained by Miss Elizabeth Ertz who sang three selections in a very pleasing manner. This was followed by an address of welcome by Mr. Carl Canfield who arose and asked the privilege of addressing the assembled physicians. The chairman of the evening asked him his name and business and upon his replying that he represented the district chiropractors a protest was raised and the visitors asked that he be put out. After a short interchange of questions between the chairman and Mr. Canfield it was agreed that he should be allowed to speak and he had most of the members mystified as to whether he was a genuine D. C. After Dr. M. N. Voldeng making several attempts to arise and protest and Dr. B. G. Dyer asking a question which caused a broad smile to appear on the face of the speaker, it dawned on the listeners that Carl was putting something over on them and his talk ended with the applause of the doctors who saw the joke.

C. B. Luginbuhl, M.D., Des Moines, gave a very fine address on The Present Day Treatment of Goiter, which was discussed by N. M. Whitehill, M.D., of Boone, and Frank Connors, M.D., of Nevada. Drs. Fay, Burcham and Glomset of Des Moines were present and added to the

discussion. Mr. Vernon D. Blank, managing director of the state society was present and talked on changes in the constitution and legislative work.

M. C. Jones, M.D., Secretary, Boone County.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

The week of November 1-8 was devoted to the annual campaign of the New York City Committee of the American Society for the Control of Cancer. This campaign was carried on by special newspaper articles, advertising on billboards and car cards, talks at various places throughout the city, and the distribution of pamphlets. The annual dinner of the committee was held on October 31, the guest of honor being Madame Curie, and the chief speaker, Bruce Barton.

A public meeting was held on November 8 at the Academy of Medicine. At this meeting, Dr. Clarence C. Little, newly appointed director of the society, and Dr. Matthias Nicoll, commissioner of health of the State of New York were the speakers. The subject of Dr. Nicoll's talk was the control of cancer as a public health problem.

FREE DENTAL CLINICS FOR NEW YORK

A large plot of land on East Seventy-Second street, New York City has been selected by the Murry and Leonie Guggenheim Foundation as the site for the first unit of the free dental clinics for children. This unit is to be a part of a system which is to extend throughout the city of New York. It is expected that between \$3,000,000 and \$4,000,000 will be expended on the first unit.

PERSONAL MENTION

DR. FRED MOORE, Des Moines pediatrician, has received an invitation from Dr. Ray Lyman Wilbur, Secretary of the Interior, to assist in the organization of the white house conference on child health and protection. Dr. Moore is director of the health department of the Des Moines public schools.

DR. ROSE BUTTERFIELD of Indianola, and DRs. NELLE NOBLE and SOPHIE HINZE SCOTT of Des Moines attended the International Assembly of the Inter-State Post-Graduate Medical Association which was held in Detroit, Michigan, October 21 to 25.

DR. H. F. THOMPSON of Forest City has left the United States for an extended vacation trip in Europe. He is to visit his daughter, who lives at Cannes, near Nice, and will continue a sight-seeing tour into Italy, Turkey, Greece, and the Holy Land.

DR. WILL VANZANTEN, formerly of Boyden, has located in Hollandale, Minnesota, where he will continue in the practice of medicine.

DR. J. M. JACKSON of Jefferson is another Iowa physician who attended the four day convention of the Interstate Post Graduate Medical Association in Detroit.

DR. E. E. MORTON and wife have moved from Des Moines to Anita, where Dr. Morton is opening up a medical office in the Anita Bank building.

DR. J. E. SWANSON of Sioux City was slightly injured October 30 when the automobile in which he was riding collided with another car and overturned.

DR. E. B. WOODS, formerly a physician and surgeon of St. Louis, Missouri, is locating at Valley Junction, taking over the practice of Dr. J. E. Kiley. Dr. Woods is a graduate of the University of Missouri and St. Louis University and has been located in St. Louis since 1926.

DR. AND MRS. WALTER ANNEBERG of Carroll were among other Iowa people attending the Detroit meeting of the International Assembly of the Inter-State Post-Graduate Medical Association, October 21 to 25.

DR. W. T. RUARK, formerly of Asheville, North Carolina, has accepted a position on the medical staff of the Oakdale Sanatorium at Oakdale, Iowa, where he will serve under Dr. C. F. Taylor, head physician at the hospital. Dr. Ruark had served in the tuberculosis departments of Veterans Bureau Hospitals for several years prior to locating in Asheville, North Carolina.

DR. J. H. GASSON of Bedford drove to Detroit for the annual meeting of the International Assembly of the Inter-State Post-Graduate Medical Association which was held there the week of October 21.

DR. JOHN HANNA of Burlington has been appointed surgeon in charge of the United States Public Health Service at Burlington.

DR. HAROLD N. ANDERSON has announced that he is to open a practice in general surgery of the brain and spinal cord at Des Moines.

DR. C. F. JONES has located in Odebolt to practice medicine, coming here from the state of Washington. He is a graduate of the University of Iowa College of Medicine.

MARRIAGES

Sunday, November 3, the marriage of Miss Mathilde Shindler of Baltimore, Maryland, and Dr. J. M. Moskovitz of Missouri Valley, Iowa, took place in Omaha, Nebraska. Dr. Moskovitz has been practicing in Missouri Valley for the past four years.

The marriage of Miss Helen Zoller of Cascade, and Dr. John G. Goggin of Cedar Rapids, took place October 22 at Cedar Rapids. The bride is a graduate of the Mercy Hospital Nurses Training School, and the groom has been practicing medicine in Cedar Rapids for several years.

OBITUARIES

AMY, HARRIETT BOTTSFORD, Decorah, died November 25 at the age of eighty-four; graduated in 1875 from the Woman's Medical College of Pennsylvania. At the time of her death she was a life member of the Winneshiek County Medical Society.

GOCKLEY, ALBERT S., Carroll, died November 14 at the age of seventy-four; graduated in 1880 from the University Medical College of New York City. He had long been a member of the Carroll County Medical Society.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Senior Medical Officer (Internal Medicine), \$4,600 a Year

Junior Medical Officer (Interne), \$2,000 a Year

Applications for senior medical officer (internal medicine) and junior medical officer (interne) must be on file with the Secretary of the Fourth U. S. Civil Service District, Washington, D. C., not later than December 26.

The examinations are to fill vacancies in Saint Elizabeths Hospital, Washington, D. C., and vacancies occurring in positions requiring similar qualifications.

The entrance salaries are \$4,600 a year for the senior grade and \$2,000 a year for the junior grade. Higher-salaried positions are filled through promotion.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information may be obtained from the Fourth U. S. Civil Service District, Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Dietitian

Applications for dietitian must be on file with the Civil Service Commission at Washington, D. C., not later than December 18.

The examination is to fill vacancies in hospitals of the U. S. Public Health Service and U. S. Veterans' Bureau throughout the country.

The duties, under the direction of the medical officer in charge and the clinical director of the hospital, are to requisition and inspect all food supplies for both patients and personnel; to plan menus, both normal and special; to supervise the preparation and serving of all dietaries; to consult ward surgeons with reference to special diet prescriptions and, upon their advice, to contact patients regularly relative to individual likes and dislikes, furnishing any necessary diet instructions.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States Civil Board of Examiners at the post office or customhouse in any city.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

STERILIZATION FOR HUMAN BETTERMENT—By E. S. Gosney, B.S., L.L.B., and Paul Popenoe, D. Sc.—The Macmillan Co., New York, 1929—Price \$2.00.

THE MEDICAL CLINICS OF NORTH AMERICA—Issued serially, one number every other month—Volume 13, No. 2 (Chicago Number, September, 1929) Per Clinic year—Paper, \$12.00; Cloth, \$16.00 net—Philadelphia, W. B. Saunders.

AN INTRODUCTION TO THE STUDY OF HUMAN ANATOMY—By R. J. Terry, A.B., M.D.—The Macmillan Co., New York, 1929—Price \$3.50.

AMERICA'S SEX AND MARRIAGE PROBLEMS—By William J. Robinson, M.D., Eugenics Publishing Co., New York, 1928—Price \$3.15.

CLINICAL MEDICINE FOR NURSES—By Paul H. Ringer, A.B., M.D.—Third Revised Edition—F. A. Davis Co., Philadelphia, 1929—Price \$3.00.

THE NUTRITION OF HEALTHY AND SICK INFANTS AND CHILDREN—By C. Pirquet, E. Nobel and R. Wagner (Of The Children's Hospital of the University of Vienna); Translated by Benjamin M. Gasul, B.S., M.D.—F. A. Davis Co., Philadelphia, 1929—Price \$3.50.

INTERNATIONAL CLINICS, A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles—Edited by Henry W. Cattell, A.M., M.D.—Vol. III, Series 29—J. B. Lippincott Co., 1929.

DISEASES OF THE BLOOD—Harper's Medical Monographs—By Paul W. Clough, M.D.—Harper and Bros., New York, 1929—Price \$2.50.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1930—William Wood and Co., New York—Price \$2.00.

BOOK REVIEWS

YOUR WEIGHT AND HOW TO CONTROL IT

A Scientific Guide by Medical Specialists and Dieticians—Edited by Morris Fishbein, M.D., Editor of the "Journal of the American Medical Association" and of "Hygeia"—With an Introduction by Wendell C. Phillips, M.D., Former President of the American Medical Association. Garden City, New York, Doubleday, Doran and Company, Inc., 1928.

This volume, edited by Dr. Morris Fishbein, was authorized by the officers of the American Medical Association to meet a very popular demand for lay information on this subject. The "New York Herald Tribune Sunday Magazine" received over 25,000 inquiries dealing with problems of weight control during a single year, which caused this paper, through its editor, Mrs. William B. Meloney, to seek aid in the solution of the problem. In February of 1926, the first adult weight conference was called in New York City, at which the foremost educators, clinicians, physiologists, physiological chemists, and dietitians from over the country attended. Various problems and phases of this important subject were discussed, and as a result of this conference, certain authorities of note were requested to prepare suitable chapters for publication.

Part I of this volume is made up of these formal articles. The editors quite correctly felt that a volume of this sort would not be complete without a definite section dealing with the elements necessary for a proper balance of food principles, with carefully prepared diets for gaining or reducing. Such a survey of the problem is included in Part II of the volume, which has been prepared by Flora Rose and Mary Henry, director and professor of nutrition respectively at the New York State College of Home Economics, Cornell University.

When we consider the present effort, particularly by the American woman both young and old, to acquire a boyish

figure by methods unscientific and often foolish, and further, when we appreciate the fact that much actual injury may result from unguided attempts at reduction, we must surely feel that this book is not only timely, but is one which should receive greater attention and circulation. Practitioners will serve their patients well in recommending this volume, and will at the same time be assured that the information furnished will go far in safeguarding individual health and combating reduction propaganda which may lead to unfavorable results.

(Editor's note): This volume has recently been offered complimentary with a year's subscription of "Hygeia", the health magazine. See editorial, page 540.

DISEASES OF THE LIVER, GALL-BLADDER AND BILE-DUCTS

By Sir Humphrey Rolleston, Bart, K.C.B., M.D., Hon. D.Sc., D.C.L., LL.D., Regius Professor of Physic in the University of Cambridge, Etc., and John William McNee, D.S.O., M.D., D.Sc., F.R.C.P., Associate Physician to University College Hospital. With 87 Illustrations. Third Edition. MacMillan and Co., Limited, St. Martin's Street, London, 1929. Price \$16.00.

Since the first edition appeared in 1903, this volume has been recognized as outstanding, and, until a very short time ago, unique in its particular field. The present—1929—edition was demanded since tremendous advances have been made in unraveling the mysteries of this largest of all visceral organs—the liver. In this edition, one will find the latest and the best of modern literature, both clinical and experimental, sifted with untiring precision and evaluated by a master whose clinical experience is not excelled by any living physician. Throughout the volume one feels the magnetic power of the great teacher, Rolleston. The

style of presentation, the colorful descriptions, and withal the sound logical interpretations make the volume a pleasure from its introduction stressing the little discussed anatomy and physiology of the liver units to the final chapters dealing with cholelithiasis and the use of x-ray in hepatic diagnosis.

Every phase of liver anatomy, physiology, pathology and chemistry bearing upon its normal or abnormal function receives due consideration. The specific diseases affecting the liver primarily or secondarily are given full sections where etiology, symptomatology, pathology, differential diagnosis and treatment are carefully presented. Occasionally case histories taken from the author's experience are introduced to add vividness or force to points stressed in the text. The text is thoroughly illustrated by the generous use of well-chosen photographs, drawings, and color plates. In Footnotes at the bottom of each page will be found references to the literature cited. The volume is fully indexed for references.

This volume carries our unqualified endorsement and it is our belief that there is no physician practicing general medicine or surgery, but will find his problems in daily practice simpler for having carefully read this exceptional treatise.

VARICOSE VEINS, WITH SPECIAL REFERENCE TO THE INJECTION TREATMENT

By H. O. McPheeters, M.D., F.A.C.S., Director of the Varicose Vein and Ulcer Clinic, Minneapolis General Hospital. Price \$3.50. F. A. Davis Co., Philadelphia.

It is a pleasure to see our literature enhanced by something worthwhile, either something entirely new, which is very rare, or the very accurate compilation of our knowledge in a concise form. The author treats the subject of varicose veins very fully and gives in a detailed manner the technique of the injection treatment of varicose veins.

The book is worthy of a place in any medical library.
F. W. F.

A STUDY OF MASTURBATION AND THE PSYCHOSEXUAL LIFE

By John F. W. Meagher, M.D., F.A.C.P., Neurologist to St. Mary's Hospital, Brooklyn; Neurologist to the Mary Immaculate Hospital, Jamaica, Etc.; Second Edition, New York; William Wood and Company, 1929. Price, \$2.00.

This author has attempted to cover the essential medical features of this little understood subject. Contrary to the opinion of many writers, he believes the erotic actions of infants and children are essentially sexual in motive, in spite of the fact that true sex instincts are undeveloped. He believes the habit almost universal in early life. In adults the habit, while more common in adolescence, is not rare at the menopause. The habit is said to be more common in women than men, and while more common in unmarried women, he states that about 10 per cent of the married women practice masturbation.

He states that the harmful results of the practice have been overstressed greatly. He believes that the mental

harm resulting from the practice greatly outweighs the physical.

Treatment is discussed from a purely psychological aspect. His viewpoint that the condition is almost solely psychopathological is not shared by many authorities.

OUTLINE OF PREVENTIVE MEDICINE FOR MEDICAL PRACTITIONERS AND STUDENTS

Prepared Under the Auspices of The Committee on Public Health Relations, New York Academy of Medicine. Twenty-one Contributors. Editorial Committee; Frederic E. Sondern, Charles G. Heyd, E. H. L. Corwin. Paul B. Hoeber, Inc., New York.

This volume is the result of the combined efforts of a Committee on Public Health appointed by the New York Academy of Medicine. It differs from the usual volume on this subject in the fact that the effort is here directed to better individual health by frequent and thorough periodic physical examinations rather than stressing those factors commonly covered such as environment, occupation, food, etc. This concept of preventive medicine is entirely in keeping with modern thought, and will, if properly understood and accepted, go far in securing an improved mortality and morbidity rate in any community. Each chapter has been prepared by an outstanding authority, and furnishes that information most pertinent to the problem of individual health conservation, and suggests only methods of investigation which have been thoroughly proven.

There are, in all, twenty-one authors contributing to this small volume. The book may be considered as a text for the newer practice of medicine, and its careful study will equip the average physician to perform his duties as consultant with greater ease and accuracy.

TULAREMIA

(History, Pathology, Diagnosis and Treatment). By Walter M. Simpson, M.S., M.D., F.A.C.P., Director of the Diagnostic Laboratories, Miami Valley Hospital, Dayton, Ohio, Etc.; Foreword by Edward Francis, Surgeon, United States Public Health Service; with 53 Text Illustrations and 2 Colored Plates; Price, \$5; Paul B. Hoeber, Inc., New York, 1929.

It is highly fitting that this volume should be dedicated to Dr. Edward Francis of the United States Public Health Service, since the recognition, grouping, and experimental investigation of the disease have been chiefly the work of this agency. Tularemia, first discovered by McCoy, U.S.P.H.S., and entirely developed by American workers, has aptly been called "the first American disease". Its importance is suggested by the fact that during the past four years 800 cases have been reported from practically every state in the Union.

Dr. Simpson in this monograph presents a summary of our knowledge of the history, pathology, diagnosis, serology, and treatment of this disease, which is complete and authoritative without tediousness. With the background of a wide experience with this disease, the author

ably presents not only the experimental, but also the clinical features of tularemia with such clearness and completeness that apparently the subject is completely covered.

The volume is adequately illustrated and carries a bibliography citing over 200 references to the literature. This monograph, in our opinion, is the most valuable single publication on this disease which has been printed.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS

By George W. Norris, M.D., Professor of Clinical Medicine in the University of Pennsylvania, and Henry R. M. Landis, M.D., Professor of Clinical Medicine, University of Pennsylvania, Etc.; With a Chapter on the Transmission of Sounds Through the Chest by Charles M. Montgomery, M.D., and a Chapter on the Electrocardiograph in Heart Disease by Edward Krumbhaar, Ph.D., M.D. Fourth Edition, Revised; 954 Pages with 478 Illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$10.00 Net.

This new, fourth edition presents the subject of physical diagnosis as applied to diseases of the chest in its most modern fashion. All of the more recent methods of demonstrable worth have been included, together with those older ones which have already stood the test of time. Teaching by visual impressions has been stressed by the use of 478 well-chosen and, for the most part, entirely new illustrations. Photographs of frozen anatomical specimens generously used add a uniqueness to the volume and go far in simplifying description of relationships.

The opening chapters of the book deal with methods of diagnosis. The principles as well as the technique of various procedures receive full descriptive attention. A chapter on "Transmission of Sounds through the Chest" by Dr. Charles M. Montgomery deserves especial mention since it presents the background for a full understanding of the "why" of various physical signs encountered in physical diagnosis. A special chapter on electrocardiology will assist those devoting extra study to diseases of the heart, but adds but little to the volume for the general practitioner.

About one-half of the page space in the volume is devoted to the application of the principles previously discussed to diseases of the chest. The physical relation of signs to pathology is especially stressed. Each of the diseased conditions are discussed in a very complete fashion.

The volume is quite outstanding in the field of physical diagnosis.

YOU AND THE DOCTOR

By John B. Hawes, 2d., M.D. With an Introduction by Richard C. Cabot. Price, \$2.00. Boston and New York; Houghton Mifflin Company, The Riverside Press, Cambridge, 1929.

This volume, while written in a popular vein and in non-technical language, should appeal both to the physician and to his patients. Dr. Hawes has drawn aside the cloak of professional dignity and discussed with his readers such problems as professional ethics, what the patient should expect of his physician, and what constitutes a reasonable fee for medical service. He has offered suggestions as to when a specialist should be consulted, and

when to seek consultation and hospitalization. Common symptoms such as headache, elevations of temperature, pain in the chest, etc., have been discussed from the standpoint of the possible diseased conditions which give such symptoms. He has indicated in a general way when to call the doctor and when not to. He dispels many of the obsolete fantasies surrounding medical conditions and medical treatment. He devotes an entire chapter to the subject of the family medicine closet, which furnishes suggestions of great value to any family.

The volume is written in a direct and forceful fashion which will command the readers' attention and assure a thorough appreciation of the author's viewpoint. The book is an entirely safe one to place in the hands of any intelligent layman.

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The volume is adequately illustrated and carries a bibliography citing over 200 references to the literature. This monograph, in our opinion, is the most valuable single publication on this disease which has been printed.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS

By George W. Norris, M.D., Professor of Clinical Medicine in the University of Pennsylvania, and Henry R. M. Landis, M.D., Professor of Clinical Medicine, University of Pennsylvania, Etc.; With a Chapter on the Transmission of Sounds Through the Chest by Charles M. Montgomery, M.D., and a Chapter on the Electrocardiograph in Heart Disease by Edward Krumbhaar, Ph.D., M.D. Fourth Edition, Revised; 954 Pages with 478 Illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$10.00 Net.

This new, fourth edition presents the subject of physical diagnosis as applied to diseases of the chest in its most modern fashion. All of the more recent methods of demonstrable worth have been included, together with those older ones which have already stood the test of time. Teaching by visual impressions has been stressed by the use of 478 well-chosen and, for the most part, entirely new illustrations. Photographs of frozen anatomical specimens generously add a uniqueness to the volume and go far in simplifying description of relationships.

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About one-half of the page space in the volume is devoted to the application of the principles previously discussed to diseases of the chest. The physical relation of signs to pathology is especially stressed. Each of the diseased conditions are discussed in a very complete fashion.

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YOU AND THE DOCTOR

By John B. Hawes, 2d., M.D. With an Introduction by Richard C. Cabot. Price, \$2.00. Boston and New York; Houghton Mifflin Company, The Riverside Press, Cambridge, 1929.

This volume, while written in a popular vein and in non-technical language, should appeal both to the physician and to his patients. Dr. Hawes has drawn aside the cloak of professional dignity and discussed with his readers such problems as professional ethics, what the patient should expect of his physician, and what constitutes a reasonable fee for medical service. He has offered suggestions as to when a specialist should be consulted, and

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